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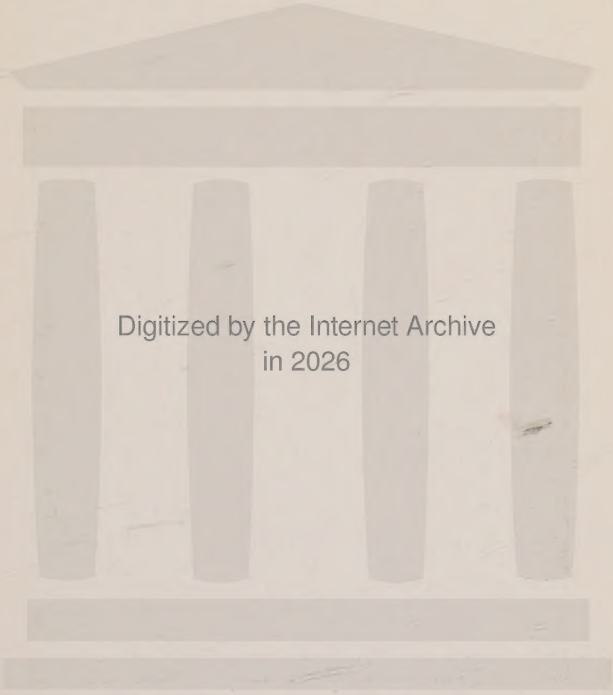
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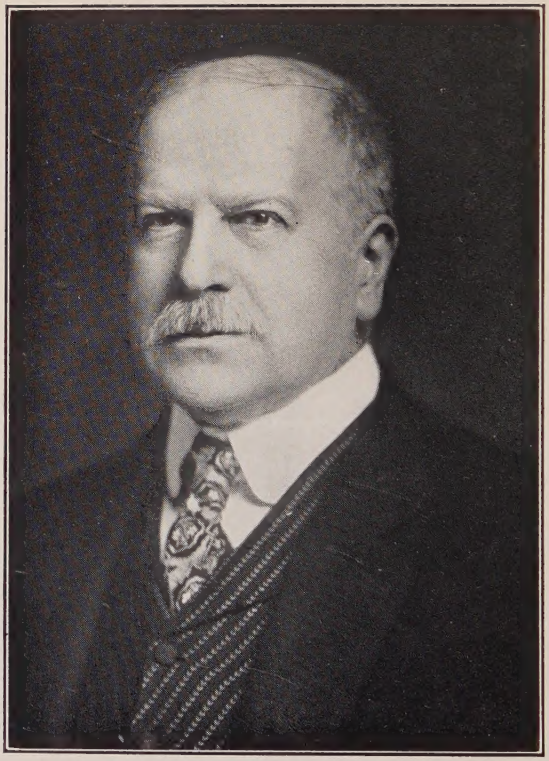

E. FRANCIS HYDE

# Influence of the Weekly Rest-Day on Human Welfare

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*A Scientific Research*

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The New York Sabbath Committee
1927

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PRINTED IN THE U. S. A.
BY THE SCHULTE PRESS, NEW YORK

# Preface

The plan of this little book is simple. In its distinctive features it differs from any volume that has yet been produced.

What is offered to the reader is taken from eminent authors and is fairly representative of the best that scientists have to say on the value of periodic rest for human welfare.

Grateful acknowledgment is made to the friends whose counsels have aided; to the authors whose findings have furnished the substance of this volume; to the Rev. Dr. Samuel Parkes Cadman for his excellent introduction, and to the Rev. Arthur Victor Boand for invaluable assistance in the preparation of this volume the publication of which fittingly celebrates the Seventieth Anniversary of the Sabbath Committee's life and work.

DUNCAN JAMES MCMILLAN.
General Secretary.

# Introduction

MY FRIEND Dr. W. W. Atterbury once said that the question of Sabbath Observance presents itself under two distinct aspects, first as a *religious* ordinance and again as a *civil* institution. This wise distinction is necessary to an understanding of the question.

The former is the special charge of the Home and the Church; the latter is maintained by the State for protection from the exactions of work and the distractions of unnecessary disturbance.

The spirit of the times demands a scientific examination as a basis for both. To meet this demand the New York Sabbath Committee presents for public consideration this book on *Scientific Research into the Influence of the Sabbath upon Human Welfare*. It does not intrude unbidden, but has been written in response to an imperative call for the rationale of the historic institution called the Christian Sabbath.

The Committee in charge of the publication has benefited by numerous suggestions. The Rev. Dr. John A. Ingham remarks, "I don't know where I can lay my hands upon a body of facts which will

serve us so adequately in the struggle to maintain the legal safeguards and to strengthen them." The late Rev. Dr. R. S. MacArthur, pastor of the Calvary Baptist Church, declares: "The time has come when a new note must be struck for the observance of the Sabbath. That note is the scientific one which you propose to strike. I am satisfied that you are taking a long step in the right direction. I rejoice in your convictions and in the wisdom in which you are laying your plans so as to secure the desired results."

Dr. Martin D. Kneeland, General Secretary of the Lord's Day League of New England, says: "I am greatly interested in the proposed investigation touching the one day's rest in seven. We need the basal facts on which to build strong and convincing arguments . . . . Physiological, psychological and economic arguments are needed in the movement for Sabbath reform. The scientific basis would make an appeal which does not at the present time exist."

The proposition is further sustained by the opinions and indorsements of such eminent men as Dr. Chittenden, Dean of the Sheffield School of Yale University; Dr. Allen J. Smith, Dean of the Medical Faculty, University of Pennsylvania; Dr. William H. Howell and Dr. Howard Kelly of the Medical Faculty of Johns Hopkins University, and Dr. W. J. Gies of the College of Physicians and Surgeons of Columbia University.

These gentlemen insist upon the scientific basis for the day of rest and express themselves as having no doubt but that speedy results can be obtained by persistence in a variety of strategic ways.

Dr. Elie Deluz, Secretary of the Ligue Universelle Pour l'Observation du Dimanche, Geneva, Switzerland, wrote: "The project of your scientific research . . . . cannot but interest every one who thinks . . . . It is certain that no one has ever gathered the evidence sufficiently how truly the repose of the Sabbath and the weekly rest are indispensable to the individual of every age and condition, and to society in general."

Let none suppose that in this fresh and vigorous treatment of an old question its foundations in the word of God are for a moment neglected. On the contrary they are confirmed and strengthened. But the fact that Sabbath Observance is based upon the eternal necessities of human nature receives more ample recognition.

The most dangerous obstacle to the benefits of Sabbath Observance is neither Sunday Industries, Sunday pleasure nor Sunday business, but an utter absence of intelligent apprehension of the meaning of the Day, and consequently, of all conscientious convictions concerning it. It cannot be either as a civic, social or religious institution unless it is supported by the large majority of the people, and their support cannot be secured unless it is demonstrated that the Sabbath rests not only upon the Divine edicts but upon the physical and religious constitution of man.

No source of information has been neglected in pursuing this investigation. Everything that could be discovered concerning the Sabbath's relation to our mental and moral well being, domestic life,

Industrial efficiency, political integrity and spiritual vitality has been freely used to define the one end the Committee has in view.

The range of the volume is briefly indicated by the titles of the seven chapters. The authors quoted are not confined to any special class or particular age, nor do their views as a rule conflict with each other. This volume is offered to the public in the hope that it may stimulate a wider investigation upon the lines laid down here and to larger and better results for both Church and State.

S. Parkes Cadman.

# TABLE OF CONTENTS

Page

INTRODUCTION . . . . . 5

I. FATIGUE AND REST . . . . . 15

1—Limits of human activity
2—The physiology of the human body
3—The nature of fatigue
4—Rest overcomes fatigue

II. THE INFLUENCE OF A WEEKLY REST-DAY ON THE PHYSICAL WELL-BEING OF MAN 25

1—Is there a scientific basis for a weekly rest-day?
2—Investigation by the British House of Commons
3—The teaching of Hygiene
4—The Metabolic Balance of Life
5—Weekly Rest-day an aid to a preventive medicine.
6—Experiments of A. Haegler

III. THE INFLUENCE OF THE WEEKLY REST-DAY ON THE MENTAL WELFARE OF MAN 38

1—The human body the instrument of the mind
2—Mental Diseases Increasing
3—Mental work without rest decreases efficiency
4—Cerebral physiology in embryonic stage
5—Progressive fatigue lowers level of nervous ability
6—Dr. Martin's experiments
7—Neglect of periodic rest, its bearing on insanity
8—Sabbatical year
9—Need of the weekly rest-day for mental welfare of man

IV. THE INFLUENCE OF THE SABBATH ON THE DOMESTIC LIFE . . . . . 53

1—Living, human interest in its approach to the question of periodic rest

2—Nation forms itself by a continual process out of its families
3—Science does not create. It merely observes and reports
4—Weekly day of rest a boon to family life
5—Sunday the day for friendships, meditations, inspirations and worship
6—Effect of neglect of Sabbath Day upon domestic life of man
a. Conditions in Spain and France
b. Sabbath neglect and crime
c. Increase in divorces and evidence as to neglect of Sabbath Observance by divorced persons
d. Juvenile delinquency and Sabbath neglect

V. THE INFLUENCE OF A WEEKLY REST-DAY ON THE INDUSTRIAL WELFARE OF MAN 70

1—Arguments for and against a week of five work days
2—Increasing number compelled to work seven days a week
3—Report of British Committee on workers in munition factories and workshops
4—America land of high wages and industrial efficiency
5—No advantage in working seven days a week
6—No advantage to industry in seven-day labor
a. Machinery more easily broken
b. Workers less efficient
c. Production no greater than in six day week
d. Accidents more frequent
7—A day's intermission in the routine of the toiler is necessary
8—Law of fatigue and refreshment of metals

VI. THE INFLUENCE OF A WEEKLY REST-DAY ON THE POLITICAL WELL-BEING OF MAN 87

1—The Sabbath a civil as well as a religious institution

2—Sabbath legislation necessary for safeguarding rights of the state

3—Weekly rest-day protects from the greed of employers

4—Periodic rest-day promotes social welfare and protects home

5—Sabbath safeguards the moral influences necessary to stability and character of the state

6—History of Jews of France proves advantage of weekly rest-day to the State

7—Judge Alton B. Parker on The American Sabbath

VII. THE NECESSITY OF THE SABBATH FOR THE RELIGIOUS WELFARE OF MAN . . 100

1—Religion defined in both broad and restricted senses

2—The Sabbath sustains the religious life of mankind

3—The Sabbath benefits each individual, diffuses its comforts and blessings to communities, nations and races.

4—The Sabbath necessary for family religion

5—The Sabbath an opportunity for the cultivation of the religious nature and other higher interests

a. Its periodicity gives opportunity for intellectual and social progress and enjoyment

b. Sabbath Observance promotes the dissemination of religious truth

c. Exercises of Sabbath day the best social opportunity

6—The necessity of a weekly rest-day for the preservation of religion proclaimed by the voice of mankind

7—The Sabbath a golden link between the law of our duty to God and the law of our duty to our fellow man

8—The Weekly Rest-day is needful for the worship of God, and the existence of the Church
9—The Weekly Rest-day is of Universal Necessity
a. Inherent in human nature and in the constitution of the world
b. No hope of destroying the Christian religion while the Sabbath remains
c. "As we keep or break the Sabbath day we nobly save or meanly lose the last best hope by which man rises."

# INFLUENCE OF THE WEEKLY REST-DAY ON HUMAN WELFARE

*Chapter I*

# Fatigue and Rest

ONE of the hopeful signs of the age is that the scientific method is being applied to every variety of investigation. Much that we have accepted as matter of fact, or viewed from other vantage grounds, must stand or fall by the verdict of science. What of the weekly rest day? Is it indispensable to the welfare of man or is it not? Let us consider first the nature of life's "Enemy of energy," fatigue, and the function of rest in overcoming it as we take up the study of the weekly rest-day with reference to its influence upon the physical welfare of man.

"That sustained effort of mind or body brings about a state of weariness with marked impairment of efficiency," says Prof. E. G. Martin, "is among the commonest facts of human experience."[1] There are human limits to activity, and no one who is wise will seek to go beyond these limits. Of the energy generated normally by the human body each day less than one-fifth is available for the thought, tasks, and relaxations of life. Twenty-eight hundred of the thirty-four hundred foot-pounds of energy generated by the body daily are consumed in maintaining the heat of the body. "Every one," says Dr. Wm. F.

[1] "Sunday, The World's Rest Day" p. 192.

Book, "has a daily surplus of energy, one amount for you, another for me, but definitely limited at some point for all of us. That is the 'energy bank account' and a man's efficiency depends on how he uses it."[1] To understand the nature of fatigue, its injurious effects, the ways and means of overcoming it, especially the relation of rest to conserving the energy of man is the task with which we are immediately concerned.

Fundamental to an understanding of the nature of fatigue and to the ways and means of overcoming it, is a knowledge of the physiology of the human body. "Physiology teaches," says Goldmark, "that life is a continual change of structure. The structural basis of all tissue, muscular, nervous, connective, etc., is the cell. The life of the tissue consists in chemical combination of the protoplasm or substance of the tissue cells with the nutritive materials derived from food stuffs and the oxygen of the air. The distinctive property of the cell—that indeed which makes it living—is its power of taking to itself and converting to its own substance materials that are not living. This is a double process; for, just as the potential stuff is seized and wrought into live tissue, so the outworn, dead matter which is no longer of use is cast off and ultimately expelled from the body."[2] Elaborating upon this double process of the cell in building up and in tearing down tissue, Sir

[1] Forbes Magazine Oct. 15/26—"Your work: how to get the most out of it" by Wm. F. Book, p. 16.

[2] "Fatigue and Efficiency" by Josephine Goldmark, p. 11.

Michael Foster says.—"Did we possess some optic aid which should overcome the grossness of our vision, so that we might watch the dance of atoms in this double process of making and unmaking in the living body, we should see the commonplace lifeless things which are brought by the blood, and which we call the food, caught up into and made part of the molecular whorls of the living muscle, linked together for a while in the intricate figures of the dance of life, giving and taking energy as they dance: and then we should see how, loosing hands, they slipped back into the blood as dead, inert, used-up matter. * * * This is always going on. * * * Some of the capital of living material is always being spent, changed into dead waste, some of the new food is always being raised into living capital."[1]

It is in this knowledge that the life of the tissue consists in chemical combinations of the protoplasm of substance of the tissue cells with the nutritive materials derived from food stuffs and the oxygen of the air, and that the capital of living material is constantly being changed into dead waste, that modern science is able to assert that fatigue is a chemical process. Muscular exertion increases the quantity of oxygen absorbed and of carbonic acid eliminated by man. It is in the waste products which the muscle substance produces during work that fatigue is produced, for this waste substance, this dross, is toxic.

"In a general way," says Dr. E. G. Martin, ex-

[1] "Fatigue and Efficiency" by Josephine Goldmark, pp. 11, 12.

plaining the nature of fatigue, "we understand the processes concerned in it. We know that it results from activity of mind or body. We know, further, that in the production of activity the body operates as an engine, and is subject to the same laws as govern other engines. Of these the most fundamental is the law that the energy manifested cannot be created within the engine out of nothing, but must come from an antecedent source. The body, in respect to its energy source, is a chemical engine, deriving its power of activity from chemical transformations in material obtained directly or indirectly from the food. In these chemical transformations by which energy is afforded the material does not vanish, it merely enters new combinations. These latter are without value to the body; they are waste products to be gotten rid of as speedily as possible.

"The body is so constructed," Dr. Martin continues, "that the energy-yielding transformations and the consequent production of waste substances, occur directly within the regions of exertion. The muscles that are moved are the immediate seats of the chemical processes which furnish the energy for the movements; the brain cells whose activity constitutes a mental process carry on within themselves the chemical changes upon which their activity is based. In this location of the precedent chemical activity within the operating tissues we have the clue to the nature of fatigue, for the chemical transformations inevitably give rise, as we have seen, to waste products, and as these accumulate, by virtue of their

mere presence, they hamper the operation of the tissues. The familiar analogy of the furnace choked with its own ashes illustrates the situation."[1]

Emphasizing the fact that fatigue, which is depleted power or exhaustion induced by work, is but a revelation of the inadequacy of the nervous organization or the muscular mechanism or both, under the conditions of a given period of activity, to the strain put upon them, Dr. Wm. J. Gies says:—"If, during work, the supplies of nutrients, the fuel, at either the brain cells or muscle cells, or both, could be promptly, perfectly and continuously renewed from the circulating nutritive blood and lymph, if the resultant useless and poisonous waste materials or fatigue products, could be wholly removed from these centers as fast as these substances arise, and if the machinery of energy-expenditure could successfully resist all wear-and-tear and incidental damage —if the biological machine could run indefinitely without need of repairs,—work could be conducted without ceasing, fatigue would be unknown, rest would be merely useless inaction and sleep might be dispensable."[2]

According to Dr. Gies these hypothetical conditions of renewal, removal and repair are never attainable in effective mental or muscular labor. Work consumes nutrients faster than they can be renewed. The resultant fatigue, or waste products, are formed more rapidly than they can be removed.

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1 "Sunday, The World's Rest Day" pp. 192, 193.
2 "Sunday, The World's Rest Day" p. 169.

The machinery of energy-expenditure is more or less damaged during work by contact with the resulting fatigue products. The longer the labor continues, and the more severe it is, the more decided these phenomena become.

"For fatigue is nature's warning signal," says Goldmark, "that the limit of activity is approaching. Exhaustion, or over-fatigue, follows when the warning is disregarded and the organism is pushed beyond its limits by further forced exertions."[1]

Such forced exertion, according to Mosso, is of serious consequences. "The workman that persists in his task when he is already fatigued," he adds, "not only produces less effective work, but receives greater injury to his organism."[2]

Having set forth the conclusions of science as to the nature and the course of fatigue, the question remains with which we are primarily concerned as to the effect of cessation of labor for the overcoming of fatigue and as to whether the regularly recurring nightly rest is sufficient for a full recovery from the fatigue of the day.

That rest overcomes fatigue is as common an experience as that sustained effort of mind or body brings about a state of weariness with a marked impairment of efficiency. An illustration of how even brief periods of relaxation increases efficiency is in order. "Many business men," says Dr. Wm. F. Book, "make a practice of lying down for a few

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[1] "Fatigue and Efficiency" by Josephine Goldmark, p. 9.
[2] "Fatigue" by A. Mosso, p. 157.

minutes after lunch. Others form the habit of relaxing completely for five or ten minutes, two or three times during the morning and afternoon. For a man whose work is at a desk, one of the best things he can do, if he wants to put in a long, effective day, is to plan these intervals of relaxation quite definitely and observe them carefully.

"Throw up the window at such times," he advises, "and take a few deep breaths of fresh air, then sit down in a different chair, or even lie down, if possible, and let every muscle become lax. After a very few minutes of this, it is usually possible to return to a difficult task with renewed physical and mental vigor."[1]

Likewise the manual laborer will find that brief intervals of rest will restore the contractility of his voluntary muscles. Prof. James Miller says:—"Muscles are of two kinds; the involuntary and the voluntary. The former are never exhausted by ordinary work; they know no rest and no need for it. But voluntary muscles must have rest. By constant action their characteristic property, contractility, is exhausted. Let an arm be held out with a weight attached, it will at first be tolerably steady; the contractions of its many fibres following in such rapid succession as to give the appearance of one uninterrupted act. But as the arm tires—or, in other words, as the contractility of its muscles is exhausted by powerful and continuous action—it shakes; com-

[1] Forbes Magazine—"Your Work: How to get the most out of it" by Dr. Wm. F. Book, p. 56.

ing to move in jerks, and then to fall; each contraction being latterly made very distinct and separate, like the spokes of a wheel gradually ceasing from rapid movement.

"What happens to an arm," Prof. Miller says, "may happen to the whole body. And if the entire muscular frame be overworked, by efforts which are either excessive or prolonged, the result must be debility, trembling, exhaustion, faintness, and even death."[1]

On the other hand, after just a brief cessation of effort the tired arm may be raised with fresh vigor. The soldier who has exhausted his entire muscular system in the posture of "attention," relaxes at least one-half by standing "at ease," and that portion so relaxed and rested speedily recovers its power.

Brief intervals of rest, such as we have just referred to, food, good air, and especially the rest and sleep of the night, renew strength, but cumulative fatigue following a week of toil necessitates a longer period of rest such as is found in the weekly rest-day.

"A tired person," says Dr. Josephine Goldmark, "is literally and actually a poisoned person—poisoned by his own waste products.

"But so marvellously is the body constructed that, like a running stream, it purifies itself, and during repose these toxic impurities are normally burned up by the oxygen brought by the blood, excreted by the kidneys, destroyed in the liver, or eliminated from the body through the lungs.

[1] "Physiology and The Sabbath" by Prof. Miller, p. 15.

"So," she concludes, "rest repairs fatigue. This balance is kept true and fatigue is repaired just as long as activity is balanced by repose, when the noxious products of activity are more quickly eliminated and tissue is rebuilt."[1]

That the normal recuperative process is adequate to effect recovery from fatigue is brought out by Dr. Wm. J. Gies. It is during rest that under ordinary conditions of fatigue, the deficiencies in equipment, supplies, and processes are made good.

"The repairs, the removal of waste products, and the restocking of reserve supplies, that proceed continuously in all parts of the body as fundamental factors in the normal nutritional processes of growth and maintenance," he says, "put the nerves and muscular mechanism in effective order, during periods of rest, for a succeeding series of efforts. The duration and degree of the rest required for full recuperation of the body as a whole, or of a specially fatigued part, are determined to a large extent, normally, by the character and intensity of the preceding fatigue."[2]

Modern science finds a chemical basis for fatigue in the waste products of tissue activity, and agrees that since fatigue is caused by the accumulation of waste products within the active tissue it is to be overcome by their removal and discovers that the discharge of waste products into the blood often lags behind their production and that the blood itself is

1 "Fatigue and Efficiency" by Josephine Goldmark, p. 13.
2 "Sunday, The World's Rest Day," p. 170.

often charged with these substances through the inability of the organs of excretion to keep pace with the demands upon them.

"The necessity for periods of rest alternating with periods of activity, a necessity attested by human experience," says Dr. Martin, "is * * * for the purpose of allowing time in which the accumulated waste materials may be cleared out, restoring the tissues to their initial condition of fitness."[1] With rest established as necessary for the overcoming of fatigue, we look with expectation to the experiments of Dr. Haegler, Dr. Martin, Dr. Gies and others as to the expediency of a weekly rest-day in the overcoming of the accumulated fatigue of the week with the statement of Dr. Martin in anticipation that "the effect of our observations is to add the weight of impartial scientific judgment to the side of the influences favoring the day of rest."[2]

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[1] "Sunday, The World's Rest Day," p. 194.
[2] "Sunday, The World's Rest Day," p. 197.

*Chapter II*

# The Influence of the Weekly Rest-Day on the Physical Well-being of Man

RECOGNIZING the function of rest in the overcoming of fatigue, Dr. Martin approaches the problem of the significance to science of the regularly recurring day of rest. The question involved, however, is, as Dr. Martin states it, "Are any of the bodily tissues so affected by waste products that they cannot make complete recovery during the usual daily interval of rest? If this question is answered in the negative," he reasons, "if there are no tissues which continue to show impairment after an ordinary rest interval, there would seem to be no scientific basis for the practice of a weekly rest day. If, on the other hand, the question is answered in the affirmative, if any bodily tissues at the end of the usual rest period are not wholly recovered, such tissues will enter upon the next season of activity in a state of impairment. This impairment will become more and more marked as the days go by, until some sort of a dead level of inefficiency is reached, unless before the cumulative impairment has gone so far as to be serious, an

interval of rest, long enough to allow complete recovery, is resorted to."[1] Only on such a basis may our investigations be truly scientific.

More comprehensive than the question as to whether the weekly rest-day is necessary for man's recuperation from the accumulated fatigue of six days of toil is that which concerns his entire physical well-being. Is the rest of Sunday essential to the whole physical welfare of man?

Flourens, the physiologist, states that one hundred years ought to be the normal length of the life of a man who would give to his different organs the legitimate measure of work and rest, and the American scientist, Mussey, after numerous observations, states that he is convinced that the rest of one day in seven adds seven years to the length of a life of fifty years.[2]

During the year 1832 the British House of Commons appointed a committee to investigate the effects of laboring seven days in a week with those of laboring only six and resting one, the Committee consisting of Sir Andrew Agnew, Sir Robert Peel, Sir Robert Inglis, Sir Thomas Baring, Sir George Murray, Fowell Buxton, Lord Morpeth, Lord Ashley, Lord Viscount Sandon, and twenty other members of Parliament. The chief physicians of London were interviewed as well as a great number of witnesses of various professions and employments. Most interesting was the testimony of John Richard

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[1] "Sunday, The World's Rest Day," p. 194.
[2] Congress International A Paris—N. Y. S. C. Book 242.

Farre, M.D., based upon his own personal observations.

"I have practiced as a physician between thirty and forty years," Dr. Farre testified to the committee, "and during the early part of my life, as the physician of a public medical institution, I had charge of the poor in one of the most populous districts of London. I have had occasion to observe the effect of the observance and non-observance of the seventh day of rest during this time. I have been in the habit, during a great many years, of considering the uses of the Sabbath and of observing its abuses. The abuses are chiefly manifested in labor and dissipation. Its use, medically speaking, is that of a day of rest. As a day of rest, I view it as a day of compensation for the inadequate restorative power of the body under continued labor and excitement.

"A physician," Dr. Farre continues, "always has respect to the preservation of the restorative power; because, if once this be lost, his healing office is at an end. A physician is anxious to preserve the balance of circulation, as necessary to the restorative power of the body. The ordinary exertions of man run down the circulation every day of his life; and the first general law of nature, by which God prevents man from destroying himself, is the alternating of day and night, that repose may succeed action. But, although the night apparently equalizes the circulation, yet it does not sufficiently restore its balance for the attainment of a long life. Hence

one day in seven, by the bounty of Providence, is thrown in as a day of compensation, to perfect, by its repose, the animal system. You may easily determine this question by trying it on beasts of burden.

"Take that fine animal, the horse, and work him to the full extent of his powers every day in the week, or give him rest one day in seven, and you will soon perceive, by the superior vigor with which he performs his functions on the other six days, that this rest is necessary to his well-being. Man, possessing a superior nature, is borne along by the vigor of his mind, so that the injury of continued diurnal exertion and excitement on his animal system is not so immediately apparent as it is in the brute; but, in the long run, he breaks down more suddenly; it abridges the length of his life, and that vigor of his old age which (as to mere animal power) ought to be the object of his preservation.

"I consider, therefore," Dr. Farre concludes, "that in the bountiful provision of Providence for the preservation of human life, the sabbatical appointment is not, as it has been sometimes theologically viewed, simply a precept partaking of the nature of a political institution, but that it is to be numbered amongst the natural duties, if the preservation of life be admitted to be a duty, and the premature destruction of it a suicidal act. * * * Researches in physiology, by the analogy of the working of Providence in nature, will show that the divine commandment is

not to be considered as an arbitrary enactment, but as an appointment necessary to man."[1]

Clergymen, fellow medical men, and all others who might be tempted to work every day were warned by Dr. Farre against neglecting one day's rest in seven. The concessions of the best scientific and medical opinion of the day as gathered by the committee was that men who labor seven days in the week are not as healthy, and do not ordinarily live as long as those who work but six days and rest one.

When the question was put to a vote of a regular meeting of the New Haven Medical Association as to whether the position taken by Dr. Farre in his testimony before the Committee of the British House of Commons was correct and as to whether men who labor but six days in the week will be more healthy and live longer than those who labor seven, the vote was unanimously in the affirmative. On both sides of the Atlantic leading physicians concurred with Dr. Farre in his conclusions.

Hygiene teaches, for example, that the lungs cannot work normally and necessarily become diseased, if after having been exposed continually six days to the impure air of the shop or to the dust so dangerous in many establishments, or to the leaning attitude of secretaries, tailors and dressmakers, these organs have not a full day to dilate themselves freely in pure air, before some bloody stagnations or morbid products have fixed themselves there and before the

[1] Permanent Sabbath Documents by Justin Edwards—Library Book 101 of N. Y. S. C., p. 22.

muscles of respiration have lost their elasticity. The same is true regarding the stagnation and trouble in the circulation of the blood, the retardations, the abdominal stagnations, the hemorrhoids, all the consequences coming from sedentary professions and all the lesions in the conduits of the circulation, which are due to some compulsory attitudes or to work which is always the same, using always the same organs.

Speaking of the functional activity of the body, Prof. Niemeyer insists that we should treat properly, at all times and without partiality all the organs of the body.

"It is incumbent on us always," he says, "to consider that health is the result of multiple organs in harmonious action."[1]

"No labor or exercise can be so well regulated," says Dr. Samuel B. Lyon, "so perfectly systematized, that without occasional complete remissions or change in direction, by which some organs rest and others are used, the proper harmony of action between all the organs of the body is preserved, in such manner as to give them each their proper relative activity, which the eminent professor (Niemeyer) says is essential to health,— 'the harmonious action of multiple organs, which results in health.'

"A rest, an intermission of this unbalanced activity," Dr. Lyon continues, "is necessary to prevent the temporary and accidental lack of adjustment

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1 "Sunday Problem," p. 30.

between the organs from becoming permanent, and to allow it to pass away, in order that a normal condition of functional action may resume place."[1]

What Prof. Niemeyer calls the harmonious action of multiple organs which results in health, Miss Goldmark describes as the metabolic balance upon which health, even life itself, hangs. "Just as soon as the metabolic equilibrium is destroyed," Miss Goldmark remarks, "the organism becomes clogged by its own poisons, exhaustion results, and health is impaired."[2]

With all the wonderful advances of recent years in the field of medical science, it is impossible for preventive medicine to fully protect man from the injurious microscopic life, which always surround and inhabit him, waiting for the moment of vulnerability to seek his destruction. It is one theory of preventive medicine that immunity from germ disease is enjoyed largely in proportion to the vigor of the individual for which bodily rest is most important. "We increase a man's power of resistance to the inroads of disease," Dr. Lyon says, "by feeding him well, by giving him plenty of pure air, by providing him sufficient all around exercise, in fact, by giving him his proper share of the blessings which Providence intends for all alike. The man who is exhausted by overwork, who is depressed by anxiety, or who is poisoned by bad air, falls the readiest victim to every form of moral or physical evil in-

1 "Sunday Problem," p. 30.
2 "Fatigue and Efficiency" by Josephine Goldmark, p. 13.

fluence. When the disease germs find an overflowing vitality opposed to their attack they cease to flourish. They thrive best in a soil prepared for them by a previous lowering of the vital force. As the plant does not take from the soil other vital elements, but rather subsists on the products of previous destruction, so disease thrives best on the products of disorganization and partial decay, due to impaired vitality in the human body."[1]

Thus as an aid to preventive medicine the weekly rest day is important, for the functions of preventive medicine are not restricted to combating and forestalling zymotic diseases, but rather to aid in every possible way to keep mankind in perfect health. Truly, as has been said, "There is more joy over the eversion of disease from ninety and nine well men by the enforcement of proper sanitary rules than there is over the recovery of one unfortunate whose illness is the penalty of their violation."[2] The hygienic value of the Sabbath as a day of periodical rest and re-creation and of breaking the wearing monotony of ceaseless toil, thereby giving the human system a chance to recover itself, is of inestimable worth. Without a weekly rest day man would be between the upper and nether millstones, where constant toil amid unwholesome aliments on the one hand, and the seamy side of life generally on the other, grind the grist so fine that life seems more like a curse than a beneficent gift from the Almighty.

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1 "Sunday Problem," p. 23.
2 "Sunday Problem," p. 24.

Perhaps no greater impetus for the scientific study of the expediency of the weekly day of rest for the well-being of man could have been given than that which was given by Dr. A. Haegler in his address before the Fifth International Lord's Day Congress. Elucidating the principles of hygiene, Dr. Haegler states that it is evident that the periods of rest between days of labor answer only to the most immediate need, but are not sufficient to preserve the elasticity of the body and of the spirit.

"Hygiene must prove further," he says, "that neither lengthened hours of sleep nor the diminution of the hours of work, nor a more substantial nourishment, still less the use of stimulants, can take the place of a regular day of rest after a week of work."[1] To prove as a scientist that man is so organized as to require one day's rest in seven—that this is not a dogma invented by men, but a natural law which cannot be violated without injury to health is the task that Dr. Haegler assigned himself in his noteworthy treatise— being his conclusion upon physical observations and pathological experience.

"When the members of our body are not in action," Dr. Haegler asserts, "our mind does not cease to think nor do vital organs cease to function. Besides these physical proofs of the necessity of rest in general, we learn by experience that the ordinary rest afforded by the sleep of the night is not sufficient for the replenishment of the forces of nature. The

[1] Report of 5th International Lord's Day Congress, N. Y. S. C. Book No. 242.

numerous experiments of the distinguished physiologists, Professors Pettenkofer and Voit, have made it possible to figure exactly the quantity of substance, which a living body assimilates from the air and the food, and also what he is losing in a certain period, according to the kind of nourishment he receives, the length of rest he enjoys or the nature of work about which he is engaged."[1]

Going into detail as to the experiments which were made with an apparatus that permits the determination of the amount of atmospheric oxygen used up in a day by the body and the amount of carbonic acid and water vapor given off during the same time, the Swiss physician mentions one particular instance where the tests were verified on the person of a strong working man fed as the working men are generally fed, and having to turn a wheel, around which was twisted a chain supporting a load of 55 pounds.

"Deducting for his day's work the time lost for meals and short rests," we read, "there remained nine hours of hard work. At the end of the day's work this man went to bed, tired as if he had taken a long walk. This was made in a room of glass, well closed, the air of which was analyzed before and after the experiment; the man was weighed at his entrance and when he went out. His food was chemically analyzed; in a word, all the conditions of an accurate and complete experiment were pro-

[1] Report of 5th International Lord's Day Congress, N. Y. S. C. Book No. 242.

vided. The result of this experiment was that during his day of work this man had expelled in carbonic acid 7 ounces more oxygen than he had breathed during the same time. To cover this loss he needed 20% of oxygen to supply his need.

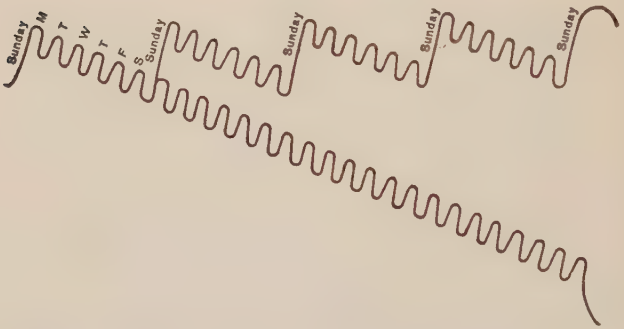
"It is evident that during the night while resting a man inhales more oxygen than he is exhaling in the form of carbonic acid, in such a manner that during the rest he receives an amount of oxygen in excess of the necessary amount for the combustion of carbohydrated substance (fat, sugar, etc.) and this surplus is used to repair the loss of oxygen sustained by the work of muscles and nerves in spite of a good nutrition. The rest diminishes the expense of carbonic acid and by that means spares the carbon, allowing him to add a quantity of oxygen necessary to the renewing of physical strength. It is true, then, that rest is an indispensable nourishment.

"Even with the amount of oxygen received by the rest of the night a loss, after each day of work, is sustained, which, modified by the intensity of work, the quality and quantity of food and the condition of the muscles, reaches, according to Pettenkofer and Voit, from 10 to 20 per cent of our entire provision of oxygen—at the end of a week the results are: a serious loss of strength, impoverished blood, the relaxed muscles and a depleted nervous system. To stop this loss and to prevent the destruction of health, a regular weekly rest is necessary. The worker has a right to it. It is not more just to deny him this right

than it is to deny him the light of the sun and the air."[1]

In order to make the results of the experiments clear Dr. Haegler constructed the following chart illustrating the Natural Law of the Weekly Rest-Day.

*The Natural Law of the Weekly Rest-Day*




"Beginning on Monday morning, each downward stroke to E (Evening) marks the daily expenditure of energy, and the upward stroke the nightly recovery, which does not rise quite to the height of the previous morning; so that there is a gradual decline during the week, which only the prolonged rest of Sunday repairs.

The downward line shows the continuous decline of the forces when they are not renewed by the weekly rest."

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[1] Report of 5th International Lord's Day Congress, N. Y. S. C. Book 242.

"Nothing can take the place of the day of rest." Dr. Haegler concludes,—"not the most nourishing food, still less any stimulant, because food restores the provision of carbon and azote but does not give us the oxygen we need. It cannot be put into our muscles in sufficient quantity," he argues, "without rest.

"The condensor, an instrument that any steam engine possesses, is not the property of a human body; the body can receive oxygen only in small amounts. In taking food in lesser or greater quantity, we replace the carbon when it begins to be used up. But it is impossible for us to accumulate oxygen faster than the breathing can supply and in greater quantity than the muscles, where we store oxygen, can contain."[1]

[1] Report of 5th International Lord's Day Congress, N. Y. S. C. Book No. 242.

*Chapter III*

# The Influence of the Weekly Rest-Day on the Mental Welfare of Man

IT is common knowledge that the human body, its senses and its organs, are the instruments of the mind and that a healthy and vigorous body, in turn, is a very important condition of the highest state of mental health and vigor. If, therefore, as we have seen from the scientific point of view, a periodic, regularly recurring weekly day of rest is essential to the physical welfare of man, it is only reasonable that we should await with interest the verdict of science as to the bearing of the weekly rest day upon his mental well-being. If the effect of bodily ailment, as medical men tell us, is to embarrass the action of the mind, to enfeeble its conceptions and to diminish its powers of application, and the weekly rest day is one of preventive medicines' best allies in helping to ward off disease, then it would appear that one day of rest in seven is essential to the mental as well as the physical well-being of man.

Particularly in our own day when mental diseases have increased so alarmingly that the members of the medical profession are viewing the situation with

grave concern and are asking whether our 20th century civilization must be blamed for the inordinate number of mind aberrations. there is added reason for considering the effect of a regularly recurring rest day upon the mental welfare of man as seen in the light of our best medical and scientific knowledge. The medical profession is generally agreed that we are fast becoming a nation of neurasthenics. According to a bulletin issued recently by the National Committee for Mental Hygiene, the number of hospital beds occupied by patients with mental diseases exceeds the number in use in all general hospitals in the country. The most reliable statistics furnished by members of the medical profession show that one out of every ten persons in New York, for example, is now receiving, or has at some time during his or her life received treatment for mental trouble.

Aside from the recent reports showing the mounting number of suicides induced by a morbid mental state, the National Committee for Mental Hygiene lays emphasis on the tremendous economic loss to the country annually through loss of health caused by mental troubles, and estimates the loss at more than $200,000,000. a year.

Many are the considerations which enter into the thorough study of the causes of these mental diseases—the mad pursuit of pleasure, social unrest, unlimited ambition, lack of ability of adaptation to environment and conditions, yet not least among them is the neglect of the rest that is necessary to sound and vigorous mentality. On every hand there

are those who freely admit, or whose mental and physical collapse prove, that the lack of rest has been their ruin.

"The work of the week if you are never free from it," as Dr. Haegler said years ago, "shakes the nerves, dulls the senses, attacks the brain, and is able to transform a man into a cipher."[1]

Professor Thorndike of Columbia University says that "mental work without rest decreases efficiency." "Too much work," he continues, "may be injurious positively, not only by direct mischief to the neurons (brain and spinal cord) doing the work itself, but also by producing in the system the states corresponding to over-excitement and worry. It may also be injurious negatively by depriving the animal of the joy, appetite, physical exercise and sleep essential to health. It may be injurious in the broader sense of diminishing the value of life by its deprivation of whatever sort."[2]

"Mental work beyond a certain point," he concludes "produces ennui, repugnance, sleepiness and pain; prolonged restraint from individual or social play produces an intense impulse to its gratification."[3]

Speaking of the diseases of the nerves and of the mind, which are gaining upon us so rapidly and which may cause our civilization yet to crumble, Dr. Carrel says that it will strike some as a paradox that

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[1] Report of 5th I. L. D. C.—Book 242 N. Y. S. C.

[2] "Educational Psychology" Vol. III, by Dr. Thorndike, p. 138.

[3] "Educational Psychology" Vol. III, by Dr. Thorndike, p. 139.

the human mind can measure and weigh the most stupendous star and say of what chemical elements it is composed and can search out and destroy disease germs invisible to the most powerful microscope and can pluck out the mystery of the infinitesimal ion, but of itself the mind knows next to nothing.

"The dead brain," he says, "is indeed an open book. As to the live brain something has been discovered of the general location of several of its more obvious functions—such as speech, action, judgment and emotional control. But the true nature of its subtler activities and of its diseases 'remains almost as mysterious as it was during the Middle Ages.'

"Several diseases are known to result from the shriveling or eating away of the brain. But the diseases most agonizing to the patient, most destructive to society, are accompanied with no discernible lesion of nerve structure. A dipsomaniac may have three children each as abnormal as himself, yet each with a totally distinct malady—the nerve tissue of one and all being apparently sound."

"Cerebral physiology is in the embryonic stage. We are still entirely ignorant of the properties of nerve cells and the nature of nervous energy. No one suspects, he maintains, the manner in which memory, intelligence, courage, judgment and the imagination are connected with the brain cells. Yet in modern life the need of such knowledge is very acute, as within a century a majority of mankind have become city dwellers, subject to nervous shocks and strains."

Although we may be entirely ignorant of the properties of nerve cells and the nature of nervous energies, we are not entirely ignorant, however, as to the effect of cumulative fatigue and recovery with reference to the nervous system. It was to test this very question that the experiments of Dr. Martin of Harvard, referred to in the preceding chapters, were made. He writes,—

"Suppose an accurate test of the condition of the nervous system be applied day by day to a number of individuals over a considerable period of time. If the number of subjects is great enough and the time long enough to eliminate incidental variations, progressive fatigue, if any exists, should be shown by a steady lowering of the level of nervous ability, and recovery, where recovery occurs, by a restoration of the initial level. The test of nervous state consisted of a measurement of the sensitiveness of the subject to electric shocks, applied to a selected region of the body surface. Various investigations have shown that the degree of sensitiveness to such shocks is determined chiefly by the general nervous state, so that in measurements of this degree of sensitiveness we have a reliable index of nervous condition.

"Tests were carried on for eight weeks with nine medical students as subjects. The general conditions of the investigation were favorable inasmuch as our subjects were following a pressing intellectual routine, which occupied their waking hours fully for six days each week, and from which they had such relief on the seventh as was afforded by a complete

suspension of class exercises, with the resulting marked break in routine.

"When the investigation was completed and we began to study our accumulated data, the fact became at once apparent that our subjects did not maintain a constant nervous condition for any considerable period. From day to day there were fluctuations in sensitiveness sometimes in one direction and sometimes in the other, which seemed, at first view, quite adventitious. More careful scrutiny of the records showed, however, that the fluctuations followed, in the main, a very definite course. Ordinarily each day's record was lower than that of the day before. The general trend was downward. This downward trend, however, did not continue long. Presently the record would show an abrupt return of sensitiveness to the initial high point, from which high point, as day succeeded day, the trend would again be downward.

"The striking and significant feature of the record is that the interval which showed the abrupt increase in sensitiveness was that from Saturday to Monday; the period of pronounced break in routine. Whereas a single night's rest did not suffice to prevent the nervous tone from showing a decline, the longer interval of Sunday not only arrested the decline, but restored the nervous system to its normal condition.

"To summarize: Our experiments brought out the following facts: From Monday to Saturday there was a tendency for the nervous tone of the subjects to diminish progressively. There were, of course,

occasional departures from this tendency, but on the whole the downward trend was unmistakable. Between Saturday and Monday, on the other hand, the nervous state showed marked improvement.

"That the progressive downward trend from Monday to Saturday was the result of cumulative fatigue can scarcely be doubted. That during the Sunday rest period opportunity was afforded for the complete elimination of the fatigue-producing substances seems equally clear.

"These observations," Dr. Martin concludes, "do not, of course, constitute a discovery in the sense that they direct human thought into channels hitherto unfollowed. The conception that the strain upon the nervous system from a day of intellectual activity is greater than can be overcome in the rest of a single night is by no means new. It has been in the minds of men since the significance of fatigue as a factor in human efficiency first received serious consideration. In matters affecting human conduct, however, so neglectful often is man of his own welfare, we have to 'make assurance doubly sure'; to heap argument upon argument. The effect of our observations is to add the weight of impartial scientific judgment to the side of the influences favoring the day of rest. If our work by any amount, however small, contributes to the advancement of right living among men we esteem it more than justified."[1]

To make assurance doubly sure, to heap testimony upon testimony, Dr. Martin most gladly gives to the

[1] "Sunday, The World's Rest Day," pp. 195-197.

world the results of his scientific laboratory experiments which prove the effect of cumulative fatigue upon the nervous system and the benefit, yea, the very necessity, of the weekly rest day. Modern civilization is wearing man down on his nerve centers, as Sir James Perves Stewart, leading neurologist of England says, and periodic rest is man's greatest boon to help keep the strings of life from snapping from over-tension. There are laws of mind as well as of the body which no man can annul, and they have penalties which no transgressor can evade.

Perhaps the saddest evidence of the effects of the neglect of periodic rest upon the mentality of man is to be seen in relation to insanity. When Judson B. Andrews, Superintendent of the State Institution for the Insane, Buffalo, N. Y., was asked what he considered the chief cause of insanity, he replied:— "Seven days work without Sunday rest."

A British scientist and writer of note makes the statement that he never knew a man who worked seven days in the week who did not kill himself or his mind. Overwork with consequent worry, insomnia, nervous exhaustion and melancholia, and when combined with unhygienic methods of living and under-nourishment, often results in insanity. Cases known as nervous prostration, which are cared for in private sanitariums, when the patients can afford such care, or, if neglected, as is frequently among the poor, become cases for hospitals for the insane. Hospitals receiving patients from the Metropolitan districts have a large number of hard working fac-

tory and shop girls, who, because of overwork, poor food and unhygienic conditions of living, have gradually broken down nervously and mentally until they require hospital care.

Rabaud testifies that "Persons of nervous temperament who find themselves marvellously well in a calm and sweet environment, become, in a life of agitation, excited, irritated in a strange manner, if they are not driven into cerebral maladies or insanity."[1]

Dr. Samuel Lyon says—"Anything which lowers the individual's vitality has long been considered as a potent cause of insanity. The sufferers from this disease are often of naturally feeble constitution, but sufficiently vigorous to go on in a fairly equable state of mind, if the circumstances of their lives are favorable; but with unfavorable surroundings, with too severe or protracted labor, in any circumstance or place where their general health is impaired, their weak resistance is broken down, and they become the victims of despondency, perhaps ever after their attack to remain incapable of self-support, and constant burdens upon the benevolence of the community. This is an indication for preventive medicine and good hygiene to act upon; to apply treatment to these people before and not after the calamity of their lives has occurred. Six days' labor a week may be too much for them, and a more frequent rest might perhaps keep the habitual strain of their lives below the breaking point. If so, would it not be wise economy to relieve the pressure before the ex-

[1] "Sunday Problem," p. 33.

plosion, and to abbreviate their days of labor, and lighten their severity? Institutions for the insane all over the world are filled with people to whom the stress of life has come with a weight, not great in itself perhaps, not too much for you or me, very likely, but to their frail natures a frightful overstrain, beneath which they have broken. Sometimes they only bend, and after a period of repose and a hoarding of nervous energy, they return to life, and with care may afterwards carry their small burden again; but too often it is a breaking, not a bending of their bow, which no skill can repair, which occurs, and they enter upon the lingering death of hopeless insanity."[1]

Certainly for the man or woman of frail physical and mental powers periodic rest is an absolute necessity, yet not only to them who may have to be especially on their guard against overstraining of their powers but to all mankind, even the most virile in both mind and body periodic rest is indispensable.

Not satisfied with merely the weekly rest-day, Dr. Wm. J. Gies of Columbia University informs us that among university men—including the physicists, chemists, psychologists and biologists a "Sabbatical year" is now being taken, representing the conviction that the amounts and periodicities of rest, as they are ordinarily experienced daily, weekly and annually, are insufficient for full recuperation of the nervous organization and the mental powers, but that a seventh year of comparative rest effects this desired

[1] "Sunday Problem," p. 34.

result. As essential then as the weekly day of rest is, it is not enough and a Sabbatical year or an annual vacation or both, are needed by thousands of normally healthy men and women who regularly refrain from work on the weekly day of rest.

So the frequent vacations required by "captains of industry" and others weighted with heavy responsibilities, and the rapid growth of the custom to grant annual vacations to all "brain workers," indicate a real need for rest for the nervous systems of old and young, beyond that obtainable, day by day, and week by week, under the conditions that ordinarily prevail for every vocation.

"It is also the personal experience of multitudes of normal men and women," we read from Dr. Gies, "that the mid-day break in the daily toil, the evening's relaxations, and the night's rest that follows the day's diversions, are inadequate, without a weekly day of rest, to insure the power for, and the sustained interest in, the day's work that are essential for its effective accomplishment continuously."[1]

Many are the scientific facts and the practical incidents which illustrate the need of the weekly rest day for the mental welfare of man. John P. Harrison, M.D., professor of materia medica in the Ohio Medical College, says, "Incessant, uninterrupted toil wears out the energies of man's limited strength. The elasticity of the spring is destroyed by unabated pressure. The nervous system is especially relieved

[1] "Sunday, The World's Rest-Day," p. 171.

by alternations of activity and repose and by diversifications of impressions.

"The sacred quietness of the Sabbath," he continues, "takes off from the brain that excessive fulness of blood which the mental and bodily exercise of six days is calculated to produce."[1]

Mosso in his book on fatigue, informs us that the nervous stimulus which in the beginning serves to shorten the muscle by about one-third of its length, no longer produces this effect after we are fatigued, and that we may easily perceive this difficulty despite the increase of nervous effort, from the way in which we drag our feet after a fatiguing walk.

The statement of a post-office clerk that in the morning he could easily tell if a letter weighed 15½ grammes instead of 15, but that in the evening, when he was fatigued, he could no longer distinguish with certainty the difference of half a gramme has been more or less the experience of us all as illustrated in different ways.[2]

The effects of worry, of uninterrupted toil, of excessive fatigue upon both mind and body are so well known to us all that we need only the scientific statement of the facts to make us realize all the more vividly how much we need our weekly day that we may ever safeguard it for ourselves and for others as one of the greatest boons of life.

"Fatigue of the nervous system," Prof. Gies ex-

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1 Permanent Sabbath Documents, N. Y. S. C. Book 101, p. 30.

2 "Fatigue" by Mosso, p. 156.

plains, "is unlike that of the muscular organization in several important respects.

"Very little material," he writes, "is chemically changed in the energy-yielding transformations upon which nervous effort depends, whereas for muscular activity the proportion of such changed material is large. Accordingly, very little food is needed for the maintenance of nervous activity, but much is required for the continuance of muscular work. Nervous fatigue may develop more slowly than muscular exhaustion, and recovery may be less prompt and complete. Weariness arising from monotony involves nervous fatigue in ways, and to degrees, that have not been ascertained but which may be the most important factors in determining the physiological need for a weekly day of rest. Repetitions in muscular effort and sameness in the demands on attention, in most occupations, that tend to induce cumulative nervous exhaustion, may incite muscular invigoration.

"Lack of interest or of ardor, languor, tedium, dissatisfaction, discontent, vexation, exhaustion, and general mental and nervous depression," says Dr. Gies, "are common symptons of the nervous fatigue that proceeds from long and uninterrupted continuance of routine daily work. These mental conditions, like 'loss' of sleep, profoundly affect essential processes in the vital organs, or result from disturbances of such processes, or both. The nervous system is a complex 'combining' mechanism that regulates and coordinates useful adjustments of parts, processes,

and products. Monotony induces weariness, and the inefficiency that proceeds from it, apparently by disturbing and disarranging normal nervous coordinations of functionally important available substances in the body, rather than by impeding the renewal of nutrients, the removal of 'waste' products, or the repairs of parts. Such weariness, unlike muscular fatigue, may be primarily a matter of process rather than of products. Recovery from such fatigue may be primarily psychological, rather than nutritional as in the case of muscular fatigue. Even a 'change of climate'—a break in the nervous routine—though the day's work continues to be the same in kind and in amount, may speedily effect recovery from weariness in the man whose work, under its accustomed conditions, 'gets on his nerves.' 'All work and no play makes Jack a dull boy.' Attitude towards one's work increases or decreases susceptibility to weariness, as is well known. 'There is nothing so fatiguing as lack of interest in what one is doing' is a common expression on this point."[1]

Thus as we have seen that rest, more than the brief intervals of repose of the day and the rest of the night, is necessary, according to our best scientific authorities for the physical well-being of man, so it is likewise indispensable to his mental well-being also. What is true of the body as to the need of rest is true also of the mind. What is true of the muscles is true also of the brain. Although the human brain requires exercise for its functional development and

[1] "Sunday, The World's Rest Day," p. 172.

vigor it is also exhausted by thought, continuous and strained. There is no state, exercise, or phenomenon of mind, as Prof. Miller of Edinburgh says, which does not tax, during its continuance, the brain, or some portion of it, not even the act of mentally willing, or volition itself. Because of this almost continuous activity the brain is in need of refreshment which it receives in different ways as in cessation of effort and in sleep. True the cessation of effort cannot be absolute as in the case of muscle, for the brain does not at any time cease wholly from its vocation, and in sleep the relaxation is less complete than with the voluntary muscles for often, when the body is resting the brain is most active.

These facts, however, but add to the necessity of as much change and rest as is possible for the brain that is suffering from nervous exhaustion. In unmistakable terms and with convincing experiments, the leading medical men and scientists of the world are telling us that the weekly rest day is vital to the mental well-being of man. If it be a matter of a weekly day of rest or a nervous breakdown, perchance of insanity, who could be so shortsighted as not to see, or so deaf as not to hear, the warnings, the convictions, the scientific proofs added one to the other, of those who are concerned with safeguarding the welfare of the human family?

*Chapter IV*

# The Influence of the Sabbath on the Domestic Life

"BACK of the elaborate structure of modern science," says Dr. William Adams Brown, "often hidden under abstractions unintelligible to the ordinary man, yet never wholly absent, is the living human interest—the desire to know, to understand, that one may feel and act."[1]

Back of our scientific approach to the subject of periodic, weekly rest, back of the attempt to study from the scientific point of view the effects upon the welfare of man of one day's rest in seven, there is the living human interest—the desire to know, to understand that we may feel and act accordingly. What then, we continue, are the effects of a weekly rest day upon the domestic life of man? Is it for better or for worse for the family that the Sabbath was made for man, and is periodic rest, such as is afforded by the Sabbath, conducive to the highest and best domestic life?

As Gilfillan says, the family is the sanctuary of infancy; the earliest and best school of piety, wisdom

[1] "Essence of Christianity" 1902, p. 8.

and virtue; the retreat of the toiled and weary man; and the dearest asylum to the sorrowful. It is the humble hearthstone which is the corner stone of the temple and the foundation stone of the city.

"Whatever, therefore," he concludes, "serves to form or to uphold the true family institution must be an unspeakable boon to the world."[1]

"For better or for worse," as F. J. Harvey of London, England, says in his latest book[2], "the nation is forming itself by a continual process out of its families. In them, not only the physical types, but also the qualities of mind and will are first produced." In the interest of the nation as well as of the family a scientific knowledge as to the effects of a weekly rest day upon the domestic life of man may well be considered.

Reminding her hearers at the International Congress on Sunday Rest in Chicago that as Jachim and Boaz stood at the entrance of the temple at Jerusalem, the Sabbath and the family stand at the threshold of human history, Mrs. J. H. Knowles continues:

"'The pillar at the right of the Temple entrance signified Establishment; that at the left, Stability. So, at the outer porch of the Temple of Humanity, in which God will show forth His glory through the ages, these two are placed for perpetuity and strength. The casting down of the beautiful pillars

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1 "The Sabbath" by Gilfillan, p. 229.

2 "Sunday Observance in Church, State and Home" 1924 p. 50.

is especially mentioned in the destruction of Solomon's glorious work: pillars and temple stood or fell together. So will Humanity rise in beautiful proportion, the perfect outcome of the great Designer's plan, only so long as these towers of strength, the family and the Sabbath, remain, wreathed with chains of love and lily-work of purity, secure from desecrating hands."[1]

It is ever important to remember in approaching any subject that science itself does not create, it merely observes and reports. So the study of the effects of the weekly rest day upon the domestic life of man is that study which observes and reports most accurately the effects upon the domestic life of man of its observance and of its neglect. The more accurate, the more exhaustive, and the more universal the observations are the more truly scientific the results will be. Even the most exacting man of science will agree with the following definition—

By the scientific spirit we mean the spirit which observes patiently that it may define accurately; the spirit of minute and exhaustive research, which gathers its materials from the widest possible field and extends its investigations over the longest periods of time that it may gain a basis for generalization fitted to serve as a safe point of departure both for thought and action.

Specifically, as to the effects of periodic weekly rest as provided for man in the institution of the Sabbath, there must be considered both

[1] "The Sunday Problem," p. 161.

the positive and the negative aspects of the subject. What are the benefits of one day's rest in seven to the domestic life of man to which the most critical test may be applied and what do we find by the inductive method of study are the evil effects upon the family life which results from Sabbath neglect or desecration?

It has been a generally accepted truth for centuries that the day set apart in the week for rest and for worship has been one of the greatest boons to the family life that man possesses and we are realizing more now, perhaps just because of the apparent letting down of the old fashioned home and of the typical Sabbath observance of former days, that family management of Sunday has much to do, as T. J. Harvey says, with the family character and family fortunes.

"Whether we will or no," he continues, "Sunday is the point where the main paths begin to diverge and the main character of our life's journey begins to be determined. Sunday is like the ridge line of a watershed where the land slopes away to far distances, and the difference of an inch or two in the direction of a streamlet presently amounts to a difference of scores of miles.

"Systematic attention to and systematic neglect of the Lord's Day in the family," he concludes, "bring sure rewards and penalties in their train."[1]

Sunday has the effect of uniting families whose members have been separated during the week. It

[1] "Sunday Observance in Church, State and Home," p. 50.

is the one day of all the week for friendships, for meditations, for inspiration and for worship. It is the day for books, for reading, for keeping up the family ties by correspondence, as it is the day for the instruction of the young by the parents in those deeper significances of life which education by professional teachers at its best can only supplement.

It is the day, as the late Samuel Gompers said, which is essential to the vigor, stamina and character of sterling manhood and womanhood, for as he wrote "seven days labor steals from the workers the opportunities for the cultivation of a higher, better and nobler spirit, which gradually but surely, takes from the worker all appreciation of his rights and renders him incapable of performing his duty as a man, as a father, as a citizen."

The family, no less than the Church, it has been said, needs the Sabbath to purify and sweeten the tone of its daily life, to cultivate and strengthen those domestic virtues and graces without which the home is but an empty name and fails to accomplish its divine mission as educator. To attempt, therefore, to undermine the Sabbath is to lay a sacrilegious hand upon the altar of the home. To cry "down with the Sabbath" is to cry with the same breath "down with the home."

Sunday is the rest day, the breathing spell of the family when it is lifted up from dusty contact with material things, and in a purer air and a brighter sunshine, feels the pulsations of a higher and more spiritual life. It is indeed a day of rest and of glad-

ness, and thus should ever remain, shedding an external beauty upon the humblest home, interrupting its earthly cares and ironing out its wrinkles, clothing it in Sunday hues and brightness, and bringing it into contact with the good thoughts of good men. As a day of rest, order, and beauty it imparts a healthful and beneficent influence upon the home life, strengthening the natural affections and binding together parents and children. One of the interesting things that the neurologists and children's specialists are telling us to-day, contrary to the popular opinion, is that church attendance works no hardship upon children, but rather that it is good for the body, the brain and the spirit of the child. The quiet calm of the sanctuary is refreshing to our children, it is said, many of whom are becoming abnormally nervous. Their imaginations are also enriched and their sense of things sublime developed.

The very compulsory absence from business which it brings to man makes him feel that he is more than a mere provider of food and raiment, that it is not the fruits of his labor and the accumulations of his industry that make the home, but rather the warm sympathy, the sweet affection, and the spiritual ties that bind human hearts inseparably together.

The rest day of the week comes with its divine breath to quicken into new life the domestic affections, to gather into closer fellowship the family, so that its unity shall be lovingly felt and manifested, to bind all hearts together in conjugal and paternal love and filial confidence, and to seal anew a union

which begun on earth, should look to its perfect consummation in heaven.

One of the main reasons given for setting apart the weekly rest day is "that it may be well with you and with your family forever." Emerson, speaking of the much-maligned Puritan Sabbath and its "inherited advantages," writes gratefully "who shall restore to us the odoriferous Sabbaths that made the earth and the humble roof a sanctity?"[1]

One day of rest in seven with its leisure and its opportunities for mental, social and spiritual culture is a necessity for the perpetuation of the true and highest domestic relationships of life.

Convincing as are the evidences of the benefits of the weekly day to the domestic life of man, even more convincing are the facts which prove that the neglect of Sabbath observance is destructive to the domestic relationships. Gilfillan asserts that we shall look in vain for a true and happy home in those places where no weekly holy day exists, or where its advantages cannot be enjoyed.

"In Spain," he says, "there is no holy Sabbath. The first day of the week is the great day for the theatre, and particularly for the bull-fight.

"In harmony with such amusements and such a Sunday," he continues, "is the disorganized state of the family and of general society in Spain, where every man must wear a weapon; where the most petty journey requires the preparation of a warlike

[1] "Sunday Observance, in Church, State and Home," F. J. Harvey, p. 51.

enterprise, * * where a multitude of poor infants are thrown upon the state each year for its care, and the real amount of infanticide, owing to the general licentiousness of the people is incalculable."[1]

What is illustrated by Gilfillan as to the effects of Sabbath neglect or destruction upon the domestic life of man in Spain is illustrated also in the experience of France. Years ago De Tocqueville, who had been much impressed by the marriage tie and conjugal happiness as they existed in America, said that France must have the American Sabbath or she is ruined.

Before the outbreak of the late war juvenile crime in France had so increased that there was grave concern over the cause and remedy for the distressing social phenomenon. The Academy of Moral Sciences affirms that the type of criminality is one of the saddest scores of French life, stating, "It takes whole pages in our daily newspapers to recount the crimes of the evening before. When the assassin or 'apache' is arrested, he is generally found to be a young man, an adolescent, or a child. This is something wholly new, a real menace to the future and a blow in the face of those who have thought to regenerate us by revolutionizing popular education."

Standing out in the statements of a number of leaders of French thought who have sought to analyze the causes is the conviction that the insufficiency of moral and religious training is paramount. "You demand the punishment of these young men

[1] "The Sabbath" by Gilfillan, pp. 231, 232.

in the name of society," said Mr. Henry Millevoye in defending certain young men in court. "I should like to ask of our society—what has it put into the souls of these children after destroying all ideas of God, of eternal life and of faith."

Yet we need not go to Spain or to France to witness the effect of the neglect of spiritual training and of the desecration of the Sabbath in the breaking down of morals and of the home. The statistics as to divorce, crime, juvenile delinquency such as are available in the United States to-day, added to the evidence of preceding generations, give much weight, to the proposition that Sabbath observance has important bearing upon domestic relationship.

Blackstone says that "corruption of morals usually follows a profanation of the Lord's Day," and such the record of vice and crime would seem to prove.

Sir Matthew Hale says of all the persons who were convicted of capital crime while he was on the bench that he found only a few who would not confess that they began their career of wickedness by a neglect of the duties of the Sabbath and vicious conduct on that day. Judge Wm. Strong of the U. S. Supreme Court says, "Those familiar with criminal courts or prison discipline often hear the sad lament—'I commenced my downward career by Sabbath desecration.'" The keeper of the Massachusetts State prison affirms that hundreds of convicts lament their Sabbath desecration as their first and fatal step toward ruin.

The records of the Auburn State penitentiary

show that of the 1232 convicts who had been committed to the penitentiary prior to the year 1838 only 26 had conscientiously kept the Sabbath; of the 1450 committed to that prison previously to 1839, only 27 had kept the Sabbath; and of the 1653 who had been committed prior to 1840 only 29 had kept the Sabbath. Of the 203, for instance, who had been committed in the one year 1839-1840 only two out of the entire number had been Sabbath observers.[1]

Numerous statistics and authentic statements are available from various sources ranging over a period of almost a hundred years which without exception concur in their conclusion with the findings already stated. A gentleman in England, who for more than 20 years visited convicts daily, states that almost without exception the inmates were willing to admit that neglect of the Sabbath was one of the principal causes of their ruin. Another, who has had charge of more than one hundred thousand prisoners and who has taken special pains to ascertain the causes of their crimes, says that he does not recollect a single case of capital offense where the party had not been a Sabbath-breaker.[2]

"Nine tenths of our inmates," says the keeper of one of our largest prisons, "are those who did not value the Sabbath and were not in the habit of attending public worship."[3]

One of the staggering facts in relation to the

[1] N. Y. S. C. Book 101, p. 45.
[2] N. Y. S. C. Book 101, p. 46.
[3] N. Y. S. C. Book 101, p. 48.

domestic life of our country is the constantly increasing number of divorces. Since the year 1870 the number of divorces in the United States on the basis of every 100,000 of our population has increased from 28 in the year 1870 to 136 in the year 1922, the last year for which we have available statistical information—consistently the number on the basis of every 100,000 of our population has increased—28 in 1870; 39 in 1880; 53 in 1890; 73 in 1900; 84 in 1908; 112 in 1916; and 136 in 1922; until we are beginning to wonder just where the divorce evil is going to stop. With the facts of this alarming increase in the number of divorces, the New York Sabbath Committee under the direction of its late General Secretary and in preparation for this volume undertook to ascertain what if any bearing the observance or non-observance of the Sabbath might have upon the divorce situation. There being no uniform national divorce laws and the laxity or rigidity of the statutes as to divorce varying with the different states, New Jersey was decided upon as an average state in which to make investigation. Many interesting facts were ascertained some of which have no bearing upon the matter of Sabbath observance and others of which do. It was discovered, for example, that material conditions very evidently affect the comfort and peace of the married relationship and also that there are fewer divorces during times of financial depression than during periods of prosperity. Naturally great difficulty was found in ascertaining the real facts as to the manner in which

the parties involved actually kept the Sabbath, for it was no uncommon experience to find that the divorced husband, for instance, would claim to have been a regular attendant at the services of the church while the wife would deny most emphatically that such was the case. Yet out of a total of 440 cases analyzed and studied involving 880 divorced persons it was very clear that in the great majority of cases either one or both parties made no pretense of keeping Sunday as a holy day. Where the causes of the divorces were given as adultery, bigamy, cruelty, or desertion the following facts were revealed. In 95% of the cases where the woman was the plaintiff and the cause was given by the wife as adultery the Sabbath was not regarded as a holy day by the man; where the cause was listed as bigamy 100% of the men did not keep the Sabbath holy; where the charge of cruelty was made 80% of the husbands admitted that they never entered the doors of a church, and 82% of the men made the same admission when the wife secured her divorce on the ground of desertion.

In cases where the husband was the plaintiff and adultery was listed as the ground of divorce 78% of the women did not keep Sunday as a day apart. Where bigamy was the plaintiff's charge 100% of the wives had neglected Sabbath observance. Where cruelty was the husband's charge 60% of the women were Sabbath breakers and 51% of the women made no pretense of church attendance, where the husband's charge was desertion.

True it may not necessarily be inferred that the

fact that the great majority of those divorced (in the cases which were studied) did not observe Sunday as a holy day, was the direct cause of the divorce, or that divorces do not occur among those who are church goers; still the fact remains that the neglect of the Sabbath and of the sacred uplifting influences which should be an integral part of it means the loss of one of the strongest ties that bind men and women together in conjugal happiness.

When the evils of divorce in the sinning against the children so often involved in the separation are considered, it is all the more evident that the observance of the Sabbath as a holy and sacred day and not as a holiday is vital to the perpetuation of family life in a day when a combination of causes are seeking to break it down.

Another problem which demands our consideration in observing the effects of the weekly rest day and of the manner of its observation upon the domestic life is that of juvenile delinquency. Although to-day there is a tendency on the part of a good many people to throw stones at the young people, to slander youth and to exaggerate their shortcomings, the records of our juvenile courts show that there has been no appreciable increase of juvenile delinquency during the past few years and the number of young people under 25 years of age is less to-day on the basis of our present population than it was a few years ago; still the fact remains that in the breaking down or going of the old-fashioned home the moral and spiritual influences upon the life of the

child have largely gone also with an apparent increase in juvenile delinquency. Accordingly, when a prominent Eastern juvenile judge[1] makes the statement that of over two thousand young persons who have been before his court recently less than half a dozen have ever attended any Sunday School we have a right to ask whether the neglect of religious training on the Sabbath is not one great explanation of the trespasses of youth and whether therefore the proper regard for the holy day is not indispensable to the perpetuation of the home. With only 15,280,196 of our American young people in Sabbath Schools, with the logical conclusion that if the children do not even attend the Sunday School the great majority of the parents never set their feet inside the doors of a church, altho many of the people who do not attend the services of any sanctuary themselves still insist that their children go to Sunday School, the evidence is strong that in this very fact we have one of the most potent causes for much of the crime committed by young people. The danger is that America shall bring forth a generation of those who are not necessarily immoral but who are to all practical effects unmoral, and countless experiments have been made in the public schoolroom and elsewhere to ascertain the moral caliber of the students with alarming results.

In 1912 the magistrates in New York City called public attention to a "menacing army of young men and boys between 16 and 25 who are the most

[1] Judge Thos. C. T. Crain in N. Y. speech.

troublesome element we have to deal with—without reverence for anything, devoid of respect for the law, subject to no parental control, cynical, viciously wise beyond their years, utterly regardless of the rights of others, firmly determined not to work for a living, terrorizing the occupants of public vehicles, disturbing peace of neighborhoods, having no regard for common decency."[1]

In the great penitentiary in Columbus, O., there were incarcerated in 1925, 2650 young men, of whom 506 are in for life and 12 were awaiting electrocution. In the penitentiary at Moundsville, W. Va., there were 200 young men for life. In the federal prison at Atlanta, Ga., there were 400 young men for life. In six months' time, in 1925, 208 girls passed through the Florence Crittenden Home in Portsmouth, O. Yet the thing that interests us most here is the fact that in the great majority of cases these young people admit that Sabbath desecration, neglect of Sunday School, want of home training and lack of parental restraint are the causes of their downfall.

One of the finest things that has been done in the handling of juvenile delinquency during the past quarter of a century is the establishment of juvenile or Children's Courts. In 1902 there was established in New York City in and for the County of New York a Children's Court as a branch of the Court of Special Sessions, and the year following a similar court was set in operation in the city of Brooklyn.

[1] Report of the Board of City Magistrates 1912.

Special justices were assigned to the Children's Court until in 1915 an act was passed in New York City erecting a Special Children's Court and the Mayor appointed as justices of the Children's Court five justices from the Court of Special Sessions. In 1922 the legislature of the state of New York passed a statewide bill providing for Children's Courts in every county where they had not previously existed. In California, Missouri, Indiana, Ohio, Washington, Wisconsin, Alabama, Colorado, Idaho, Kansas, Michigan, Minnesota, Mississippi, Arkansas, Illinois, Kentucky, Oklahoma, Oregon, Pennsylvania and South Dakota there are Children's Courts of some sort, either independently established by the state legislature or attached to either the Probate or County Courts.

Yet the one great end of the Children's Court is "not to prosecute them," as Presiding Justice Hoyt of the New York City Children's Court says in his annual report for 1925, "but to save them if possible, as future assets for the city," and in the cases of many of the 10,000 children who pass annually before his court Judge Hoyt feels that this is being done.

Yet in the logic of the old adage that an ounce of prevention is worth a pound of cure it is by far the better way, as far as possible, to train up our children in the way that they should go in the home and in the Sabbath School by a proper regard for the Sabbath Day. If of the thousands who are seemingly incorrigible and who must be brought into

court only a few are found to have been in the habit of attending the Sunday School then it is well established indeed that such training is indispensable to the youth of our land and to the domestic welfare of man.

With crime, divorce, juvenile delinquency all bearing a striking testimony to the effect of the lack of religious training in the home and in the Sabbath School the fact is well established that the Sabbath and its proper observance are indispensable to the domestic welfare of man.

The pendulum of human judgment as F. T. Harvey says is swinging back toward a more careful kind of home-life and training. With the future of the home, the foundation of the nation at stake, men and women are realizing anew that the Sabbath is necessary as a rest day and more especially as a day for the imbibing and imparting of uplifting spiritual influence to the domestic life of man. United and born in Paradise, the home and the Sabbath must stand or fall together and the domestic life of man will ever reflect the observance or desecration of the Sabbath.

*Chapter V*

# The Influence of a Weekly Rest-Day on the Industrial Welfare of Man

THE proposal of Mr. Henry Ford to keep his factories closed on Saturdays and to run them at greater speed on the five remaining work days to make up for the lost time has awakened a new interest in the hours of labor that should be demanded of the industrial worker. Varying expressions of opinion have been called forth that bring out in stronger light, and with absolutely no dissension of opinion, the necessity of one rest day in seven for industry. Mr. Ford predicts that his five-day program of labor will produce higher industrial efficiency and will usher in a golden age for labor.

Judge Elbert Gary, Chairman of the Board of Directors of the United States Steel Corporation, on the other hand, feels very strongly that the five-day week is impractical. John E. Edgerton, President of the National Association of Manufacturers, after arguing against the five-day week on the ground that the fourth commandment enjoins man to work six days a week, adds that six days of toil and one of rest is "the perfectly fixed basis of human achieve-

ment and social contentment. It has served America admirably in building the greatest political, social and economic system known to history."[1] However much opinion may differ as to the five-day work week the question for us is—Does modern scientific knowledge prove the benefit of a weekly rest day for the industrial welfare of man?

Strange as it may seem, at the very time when there are those urging the advantages of the five-day work week, more and more people are being required or tempted to work seven days a week than in former years. The selfish demands of those, who, thinking only of profit and pleasure and accepting Sunday as a day for sport and amusements, are demanding an ever-increasing host of persons, who, in order to gratify *their* demands, must work *every* day in the week. This desecration of the Sabbath is causing a letting down of the bars as to Sunday work, and thousands of workingmen are being compelled to work seven days a week. Consequently, the verdict of science as to whether or no a weekly rest day is beneficial in the field of industry is most important at this time.

During the late World War a distinguished committee numbering twelve, with Sir George Newman, M.D., as Chairman, was appointed at the command of His Majesty King George "to consider and advise on questions of industrial fatigue, hours of labor, and other matters affecting the physical health and physical efficiency of workers in munition factories and workshops." Evidence was taken in London and

[1] N. Y. Times, Oct. 17/26.

in other important centres from employers, representatives of workers and other interested persons, and members of the committee personally visited large numbers of factories and workshops situated in different parts of the country. At such visits these matters were discussed with the management, foremen, and individual workers, which, together with the fact that some members of the committee possessed beforehand a special knowledge and experience, added value to their conclusions.

The problem with which the Committee found both employers and employees especially concerned was that of Sunday labor.

In making an interim report to both houses of Parliament in 1915 the Committee stated that the great majority of the employers consulted were unfavorably disposed to Sunday labor, and their objections were broadly classified under the three following heads:—

"(a) *Administrative*—Supervision is difficult and imposes a severe strain on the foremen; yet deputies are not easy to obtain.

"(b) *Economic*—Sunday labor means high wages often coupled with increased cost of running the works. Though attendance on Sundays is generally good it is not, for various reasons, always accompanied by a satisfactory individual output. Moreover, Sunday labor is frequently accompanied by bad time keeping on other days of the week.

"(c) *Religious and Social*—There is a consider-

able feeling that the seventh day, as a period of rest, is good for body and mind."

One manager stated, so the Committee reported, that "It is the monotony of the work that kills—the men get sick of it," and a common statement made by the employers to the members of the Committee was that "seven days' labor only produces six days' output."

In spite of the fact that England was in the throes of the great war the Committee felt bound as the result of their investigations, for the best interests both of the nation and for the industry to report as follows:

"The evidence before the Committee has led them strongly to hold that if the maximum is to be secured and maintained for any length of time, a weekly period of rest must be allowed. Except for quite short periods, continuous work, in their view, is a profound mistake and does not pay—output is not increased. On economic and social grounds alike this weekly period of rest is best provided on Sunday, and the Committee are strongly of opinion that Sunday work should be confined:—

"(a) to sudden emergencies, including the occasional making up of arrears in particular sections; and

"(b) to repairs, tending furnaces, etc. (the men so employed being given a corresponding period of rest during some other part of the week).

"Speaking generally, the need for this relief from work on Sunday is more urgent for 'protected' per-

sons than for adult males, and for men on overtime than for those on double shifts, and the need may also vary somewhat according to the number of hours worked during the week and the environment and character of the work; but the Committee consider that the discontinuance of Sunday labor should be of universal application and should extend to all classes of workers, except that where the work must necessarily be continuous special arrangements will be necessary.

"Should the early stoppage of all Sunday work be considered for any reason difficult, if not impossible, to bring about," the report continued, "the Committee trust that it will at least be practicable to lay down the principle that Sunday labor is a serious evil which should be steadily and systematically discouraged and restricted. They suggest that, pending a general discontinuance of such labor, there are various ways in which an important improvement might be effected.

"The above conclusions have reference to the hours of labor of workers, but the Committee desire to state that, in their opinion, the foremen and the higher management even more certainly require definite periods of rest. These individuals have never spared themselves, they carry a heavy burden of responsibility and they cannot be replaced. * * *

"In conclusion, the Committee desire to emphasize their conviction that some action must be taken in regard to continuous labor and excessive hours of work, if it is desired to secure and maintain, over a

long period, the maximum output. To secure any large measure of reform it may be necessary to impose certain restrictions on all controlled establishments, since competition and other causes frequently make it difficult for individual employers to act independently of one another.

"Signed in behalf of the Committee,

*George Newman.*"[1]

"America," says William Green, the President of the American Federation of Labor, "is now known as the land of high wages and industrial efficiency."[2] What influence the American Sabbath has had in the bringing about of the wage earners' prosperity as well as the industrial efficiency, is illustrated in the following quotations:—

"Wages are and must be at the highest point where the aspirations and motives, and the habits and customs of the wage-earners cause a progressive demand for the larger portion of time for intellectual and moral development.

"A work-day Sunday will mean a pauper Sunday. A Sunday Rest Day means seven days' living for six days' working.

"When men dress in work clothes every day, their wages will fall or remain at the work-day clothes level.

"A Sunday work-day is a reduction of wages, earnings and products. Men who receive more than they can properly expend, will ultimately receive less

[1] Report on Sunday Labour, London, 1915.
[2] N. Y. Times, Oct. 17/26.

than they can properly expend; or they will acquire habits of extravagance and profligacy, and thus become a menace to progressive civilization.

"The standard of moral attainments and intellectual activities fixes the standard of wages."[1]

The wage-earner accordingly should never lose sight of the fact that for his intellectual, moral, social and even financial advantage he should never be willing to forfeit his right to the Sunday Rest Day. It is a day holy to rest as well as to worship. Any inroad upon its observance, as has been repeatedly proven, endangers not only the cultural, social and spiritual values of the day for him and his but the very wages that he receives. There is an economic law that governs wages and it cannot be violated with impunity. Inroads made upon the Sabbath Rest Day are consequent upon the failure to reduce the hours of toil that man's capacity to consume the better things may keep pace with the productive capacity of machinery in a machine age.

So many instances have come to light where an accurate record has been kept as to the comparative earnings of those who have worked on a seven-day a week basis and of those who have worked but six days a week and rested the seventh day that it is established with scientific accuracy that there is no advantage gained by the continuous work-a-day week. A certain miner,[2] for example, worked for

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[1] "The Economic Value of Sunday Rest" by Geo. McNeill in "Sunday Problem," pp. 45-47.

[2] Scotia—"Sunday, The World's Rest Day," p. 416.

over three years in a Colorado mine where the custom of Sunday work prevailed. He was a young man in his early twenties and in good average health. He worked Sundays along with the rest of the miners and kept a diary which showed the actual time worked each year. After the three year period, Sunday rest was adopted in the mine, and the young miner who objected to the new ruling because he thought it would cut his pay check, found upon examination of his diary after the first year of Sunday rest that he had worked more days than during any of the years when Sunday work was the custom. He had lost more time by sickness alone during each of the three years when he worked seven days a week than he had rested during the fifty-two Sundays of the year.[1]

Whatever the industry may be those who work seven days in the week are always tired out. Life is but an endless monotony, and "He that earneth wages by Sunday work," as it has been said, "earneth wages to put it into a bag with holes."[2]

What is true as to the unprofitableness of seven days a week work for the individual laborer is equally true for the industry itself. Machinery used continually will be more easily broken, thereby causing enforced stoppage of labor. Accidents are more common among those who toil seven days a week than with those who labor but six days and rest on

1 "Sunday, The World's Rest Day," p. 416.
2 "Sunday, The World's Rest Day," p. 417.

the seventh day. The efficiency of the industrial workers, as has been pointed out, is lower on the other six days with a resultant loss in profits to the company that more than affects the profits of one more day of production. Again and again experience has proved that the actual output of an industry that operates but six days is equal to that of the factory with the same number of employees and with other conditions equal that operates seven days a week. Indeed the concurrence of opinion as a result of industrial experimentation would be in agreement with the statement made by Charles Bianconi years ago before the British Association for the Advancement of Science that experience taught him that he could work a horse eight miles a day six days in the week much better than he could six miles a day for seven days. By not working Sundays, he stated, he effected a saving of twelve per cent.[1]

In one of the large flour mills of the country the test was made as to whether more flour could be ground in seven days a week than in six days, and for over a period of two years the experiment was carried on. The first year the mills worked seven days a week. The year following the mills were operated but six days a week. The same number of men and for the most part the same men were employed during the two years, yet at the end of the second year it was found that the men, working only six days a week, had actually ground thousands of

[1] "Lord's Day Observance Society" Papers, N. Y. S. C. Book 126, p. 616.

bushels more of wheat than had been ground the year before or in any previous year.[1]

A salt manufacturer who was told that he could not observe a weekly rest day because he could not let his kettles cool down as often as once a week proved to the astonishment of a competitor who worked seven days a week not only that he could make more salt in six days a week than in seven, but that his expense for breakage and repairs was far less than that of the manufacturer who continued his operations uninterruptedly.[2]

Miss Goldmark refers to the fact that the percentages of accidents in the industrial world when the workers are tired, as during the late hours of the day, are sufficiently significant to reveal the fact that long attention to business and the consequent fatigue is an important factor, even though our statistics are still relatively incomplete.

"Germany," she says, "was one of the first nations to require that the hours of the incidence of accidents be reported. The Imperial Insurance Office has made a practice of publishing, at ten-year intervals, special studies of industrial accidents. * * * The latest German statistics give the number of hours worked by injured persons on the days of their accidents and show that the accident rate is highest during the fourth and fifth hours of morning work."[3] In the first report made for the insurance associations in

1 "Sabbath Documents and Reports" N. Y. S. C. Book 101.
2 "Sabbath Documents and Reports" N. Y. S. C. Book 101.
3 "Fatigue and Efficiency by J. Goldmark, p. 72.

"1887 the highest accident rate, for all industries, occurred between ten and twelve in the morning and between five and six in the afternoon."[1] It has been suggested that the German custom of allowing about fifteen minutes for afternoon lunch, a "Vesper pause," at four o'clock or later is responsible for the decrease in the number of accidents during the late afternoon hours in the later statistics as compared with the earlier. If "the present working day, from a physiological point of view, is too long and keeps the majority of men and women in a continual state of over-fatigue,"[2] as Dr. Irving Fisher of Yale University says, there can be no doubt but that seven days work a week is nothing less than a crime against the man or woman of toil. "Industrialism has been quick to accept the achievements of science in inanimate things," says Frederick S. Lee, "but slow to recognize the teachings of physiology with regard to man himself."[3] Modern inventions may increase production and lower the price of commodities but they have not and cannot diminish fatigue.

"No one claims," says Dr. John J. Burke, "that the rest of the evening and the night following a day of work meets the demand of man's nature, physical, mental and spiritual. Those hours of rest barely give him the time required by nature to restore what has been lost during the day. Modern labor legis-

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[1] "Fatigue and Efficiency" by J. Goldmark, p. 73.
[2] See letter from John Mitchell.
[3] Introduction to "Fatigue and Efficiency," V.

lation fathered the eight-hour law as a just demand for the toiler. Neither the legislation itself nor its promoters ever intended such a law to weaken the tradition of one day of rest in seven. In fact, they who demand the eight-hour working day are the strongest champions of this full day of rest.

"The history of labor proves," Dr. Burke continues, "that if the hours of work, both of the day and of the week, be not regulated, overwork is an inevitable consequence. By overwork, we mean, an abnormal tax which results in permanent injury to the physical, mental, and spiritual welfare of the worker.

"In order to avert such a catastrophe, a definite, complete intermission in the daily routine of the toiler is necessary. The course of his work should be interrupted else the work will be his undoing. One day should not be like every other day in order that life's horizon may not be bounded by the merely physical. The habitual operations of hands and feet and body must know the blessing of surcease to rescue them from being a curse. The morning must rise that will call man to relaxation; to the enjoyment of his family and his friends. The long definite intermission must come that will give to muscles and to brain full respite, and to nature what she craves—the opportunity to make fuller restoration."[1]

One of the interesting phases of the subject of the need of a weekly rest day for the industrial man is the question as to whether metals as well as men

[1] "Sunday, The World's Rest Day," p. 432.

need periodic rest. Do metals get tired? In the state of California $130,000 has been set aside as research funds in the attempt to answer the question and an arch dam costing $100,000 is to be built and then destroyed by wear and tear in the most thorough series of tests ever undertaken. The study of the problem was caused by "fatigue failures" of airplane parts.[1]

"I have been led to the conclusion that there is a regular law of fatigue and refreshment of metals," writes Prof. Thos. Egleston, Ph.D., "and that the change which produces either the fatigue or refreshment is a chemical one, which is, however, in almost all cases accompanied by physical or molecular changes at the same time. That metals under conditions that were more or less well understood became worthless, has been known for many years. It has been known to blacksmiths that iron and steel, when improperly treated in their fires, become 'burned,' as they call it, and could no longer be used, and some of them have had a scrap heap into which such material was thrown. A few of them knew that after a period more or less long the iron or steel recovered some of its original properties and could, with many precautions, again be used, but that these phenomena followed any law has not to my knowledge been announced.

"My attention," Dr. Egleston continues, "was first attracted to the varying conditions under which iron and steel rails break in service. It was not long be-

[1] World News, May 1925.

fore I became convinced that there was a general law applicable to all metals which allowed of their being used with safety within certain limits, and caused their rupture when the use extended beyond these limits, and this law I have called the law of fatigue of metals."[1]

Believing that the deterioration in iron and steel is due primarily to shocks, Dr. Egleston makes a special study of the effects of shock upon metals.

"Having eight sections of steel rails to examine," he writes, "some of which had borne a traffic of nearly one hundred million tons, and others which were planed out at my request which had never seen service, I made careful etchings of all of them, and then with both light and heavy blows struck with punches the names of the makers of the rails and their weight into the surface of the rail filed smooth for the purpose. Every trace of the letters was then filed out and the rail end again etched, when every letter became plainly visible. These were photographed, and again filed and re-etched, and the operation again repeated, until a faint blotch, entirely illegible, was the only visible trace of the effect of the punching. These same effects are produced in the wearing of the rail in different intensity, and show both the effect of the cold rolling and of the shock of the passage of the trains very distinctly.

"The change produced is a chemical one," says Prof. Egleston, "and is at the same time accompanied

1 "The Law of Fatigue and Refreshment of Metals" N. Y. S. C. Book 226.

by a change in the size, color, and surface of the grain of the iron or steel, and when this surface becomes distinct enough over a considerable surface the faces of the crystals slip on each other, and the piece separates; or in other words, breaks in the direction in which the strain is applied. * * * I have definitely ascertained that when metals get into this condition from too great strain, produced in any way, or when they approach it so as to be near their limit of elasticity, that they may be brought back to their original condition either by rest, for a time more or less prolonged, or by heat, which may be applied either slowly or rapidly as may be most convenient; and this fact I have called the law of refreshment."[1]

As a good illustration of the condition of fatigue, Dr. Egleston mentions the strain produced in casting metals in large quantities. "Cast iron guns," he says, "which were considered so bad that it was useless to test them, have, after years of rest, proved equal to the severest tests. It is equally true of other strain, where the metal has been carried very near to the point of rupture, or even beyond it. Heat applied up to a dull red has also the property of restoring the material.

"These collective phenomena," Dr. Egleston concludes, "I have called the law of fatigue and refreshment of metals. As a law I believe the announcement is new; that the change producing fatigue is a chemical one is also new. Isolated facts about the

[1] "The Law of Fatigue and Refreshment of Metals" N. Y. S. C. Book 226.

behavior of metals under strain, etc. have been known, but that they followed a law, and that rest was necessary to the conservation of the mechanical life of a metal, is, I believe, new. That the phenomena of rupture in iron and steel was accompanied by a chemical change and a whitening of the metal is, I believe, also new. These phenomena are constant in all the metals which I have been able to study."[1]

Concurring in the conclusions of Prof. Egleston, Prof. L. A. Danse, metallurgist of a prominent motor car company says that "Crystallization and breakage, formerly given as the cause for the failure of a part of a motor car after a long period of service, has become one of the exploded theories of the past.

"Studies which have destroyed the old 'crystallization' theory," Prof. Danse continues, "have also pointed the way to even greater dependability in highly stressed parts of the present-day car. In advanced engineering circles the mysterious something commonly called crystallization and breakage has been analyzed just as medical men analyze a disease and isolate its germ, and that it is in reality 'fatigue' breakage, due to impurity in the metal or some one other definite defect which can now be exposed by known laboratory and physical tests."[2]

From the standpoint both of men and of metals, of manpower and of machinery, the necessity of rest seems indispensable to the welfare of industry. For

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[1] "The Law of Fatigue and Refreshment of Metals" N. Y. S. C. Book 226.
[2] "The Sun," Nov. 12/24.

more than four decades the American Federation of Labor has stood committed to a specified rest day each week and firm against unfair and unscientific economic theories. One day's rest in seven is an elementary human right. In a day when the encroachments of industrialism, the avarice of the employers, the necessity of the laborer to accept what labor he can get are resulting in extended violation of the Sunday law and are making seven days' labor not uncommon in the United States, it is fitting to consider the scientific arguments as to the necessity of a weekly rest day for the industrial world.

*Chapter VI*

# The Influence of a Weekly Rest-Day on the Political Well-Being of Man

IF such a regularly recurring rest day as the Sabbath is indispensable to the physical welfare of the individual as the evidence shows, it is of equal importance to the state, and if periodic rest is necessary for maintaining the highest mentality of the individual it is indispensable also to the intelligence of the nation, which can rise no higher than the intellectual strength of those who comprise its body politic.

The family is regarded as the basis of the state. If the weekly rest day is of inestimable value to the family and is indispensable to its highest development it is of immeasurable worth to the nation which rests its superstructure upon the foundation of the home. Likewise if the necessity of a weekly rest day in the realm of industry is accepted as has been proven in the chapter immediately preceding, its contribution to the life of the nation is established, for the industrial life of any nation is an integral part of its political life.

From its very beginning the New York Sabbath Committee has regarded the Christian Sabbath not only as an institution of religion but also as a civil institution. In fact, its emphasis has rested upon the civil aspects of the question, from the conviction that a weekly rest day, or one day's rest in seven, is indispensable to the highest welfare of the state.

"Politics," as Will Durant says in the introductory pages of his story of Philosophy, "is the study of ideal social organization," and such study reveals the fact that a weekly rest day is essential to the highest governmental development.

One of the reactions of the present day, especially to be regretted because of its appearance at the very time when the necessity of the weekly rest day for the welfare of man has its strongest scientific sanction, is a revolt against Sunday legislation which would safeguard the weekly rest-day as indispensable to the political well-being of man. Many, who do not think deeply or who have not sought to understand the necessity of sane Sunday legislation, are inclined to brand all Sunday laws as blue laws, all arguments in their behalf as narrow, bigoted fanaticism, and all advocates of legal restraints for the protection of a weekly rest-day as misguided zealots. In the minds of many all Sabbath legislation is but an effort to make people good by legislation and to force men and women to go to church, violating the fundamental American principle of the separation of church and state.

For the benefit of those who may have formed

these or similar opinions as to Sunday legislation, and that all may realize the more clearly that one day's rest in seven is necessary to the political well-being of man and is rightfully safeguarded by law, certain facts must be stated not as an apologetic for the day but as a groundwork of its real necessity.

It is admitted by all men that there are certain things which must be guaranteed to all men by the state and that these are certain inalienable rights of the state itself which must be sustained. "Of politics, the most comprehensive and the most important of all sciences," says Aristotle, "the end and aim is the public good of the community which can only be upheld by justice, which forms the great law of the moral world." "Every political society forms, it is plain," he continues, " a sort of community partnership, instituted for the benefit of the partners," and "the best laws," we read elsewhere in his "Politics," "are those framed for the general benefit of the citizens."

"The state must guarantee to all," says Dr. John Floody in his book on "The Scientific Basis of the Sabbath and Sunday," "the protection of life and property and the enjoyment of equal rights. * * * "The state has the right to legislate in the interest of a majority of the people in sentiments, feelings and national customs, provided they do not take away the rights given by the Constitution,"[1] It has the right to determine ways and means for the public improvement, and no one would deny the state the

[1] "The Scientific Basis of the Sabbath and Sunday," p. 310.

right to make the education of the child compulsory as one of its first duties. Moreover, the state has the right, as Dr. Floody points out, to look after its own future, as we see illustrated in the existence of reform schools, prisons, the army and navy, etc.

Insisting upon this right, the state must protect the weekly rest-day, from the greed of employers for the sake of its working men, and therefore for its own preservation. To kill off a people it is only necessary to work them incessantly or have them play incessantly.

The state must preserve the periodic rest-day for its own social welfare and the protection of the home upon which its future depends, for Sunday, the weekly rest-day, is the family day.

The state must also safeguard the moral influences, which are necessary to its own stability and character, among which the Sabbath and the church stand first. This principle is recognized in the exemption of church property from taxation by the state.

"Civilization, as it moves forward along all the lines of progress in advanced thought and the researches of science," says Dr. William Allen Butler of New York, "is still as much within the domain of moral law as of physical law, and can no more dissever the religious sentiment of mankind from the order of society than it can dethrone Reason from its supremacy among human faculties. The Weekly Rest-Day properly has the sound support of publicists, jurists, and scientists, as a civil

institution; Sunday laws are properly made and maintained as civic regulations, governing men as members of society; obedience to such laws is properly claimed and enforced by penal sanctions as a part of the police power of the state; while the underlying principle which gives strength and stability to the World's Day of Rest, at once the pledge and the guaranty of its perpetuity and its beneficent power, is the faith of Humanity that it is a gift of God."[1]

Entirely apart from this "faith of Humanity" that the weekly rest day is a gift of God, although it accords with such faith, is the evidence that the science of government proves its necessity for the political well-being of man. It is the statement of Blackstone based upon a wide observation of the affairs of state that the observance of one day in seven as a day of rest "is of admirable service to a state, considered merely as a civil institution."[2]

When the abrogation of one day's rest in seven and the substitution of one day's rest in ten therefor was under discussion in France, less than a decade after the third Republic had been established, a Catholic Deputy appealed to the Chamber to remember that the nations whose commercial competition they most feared—the United States being one of them—were the Sabbath keeping nations of the world.

"No country," says Gilfillan, "can in the highest

1 "Sunday Problem," p. 207.
2 "The Sabbath" by Gilfillan, p. 251.

sense prosper without such a government as, by good laws faithfully administered, and consistently exemplified by its rulers, discourages on the one hand injustice and oppression, and restrains on the other the encroachments of a lawless liberty. And it would be impossible to name an expedient better adapted to prevent the extremes of despotism and weakness in a government than the Sabbatic institution. The Sabbath is a constant memorial and safeguard to the rulers and the rich to keep them from forgetting their duty and responsibility. It is a perpetual bulwark for all the sons and daughters of toil against the undue exaction of labour, and against encroachment on their property of a seventh part of their time. And effectual as it is for producing popular intelligence and virtue, there must spring up in the country that respects it those lawgivers and magistrates who will consult the rights and the welfare of high and low, rich and poor, and who, strong in their own character, as well as in the support of a sound public opinion, will be able to repress the risings of turbulence and disorder. How strikingly does history confirm these views!"[1]

Commenting upon the advantages of the weekly rest-day to the state, Blackstone says: "It humanizes, by the help of conversation and society, the manners of the lower classes which would otherwise degenerate into a sordid ferocity and savage selfishness of spirit. It enables the industrious to pursue his occupation in the ensuing week with health and cheer-

[1] "The Sabbath" by Gilfillan, p. 248.

fulness; it imprints on the minds of the people that sense of their duty to God, so necessary to make them good citizens; but which yet would be worn out and defaced by an unremitted continuance of labour without any stated times of recalling them to the worship of their Maker."[1]

Showing the relation of the observance of the weekly rest day to the well-being of the state Gilfillan calls attention to the history of the Jews down to the time of the Maccabees and contrasts conditions in those countries in which the Sabbath has been observed with those in countries where there has been no such Sabbath observance or where it has been on a much inferior level. "When the Jews forgot their religion and its Sabbaths," he asserts, "they became weak and dastardly, and were finally reduced to a condition of abject dependence and servitude.

"In France as compared with Britain," he continues, "in Spain as compared with Holland, in South as compared with North America, we find proofs that the people whose character, mental, moral and corporeal, has been deteriorated by ignorance, superstition, and the pursuits of frivolity and pleasure, are surpassed in energy and prowess by the men who have, through the Scriptures and the institutions of Christianity, imbibed the spirit of faith and courage, and had their intellectual and physical powers trained to activity and endurance."[2]

1 "The Sabbath" by Gilfillan, p. 251.
2 "The Sabbath" by Gilfillan, p. 253.

Addressing the 14th International Lord's Day Congress held in Oakland, California, in 1915, during the Panama-Pacific International Exposition, the late Judge Alton B. Parker, emphasizing the necessity of the American Sabbath for the political well-being of the nation, spoke, in part, as follows:[1]

"The continuance of our national life in its primal vigor absolutely demands that the first day of the week be set aside and forever observed and celebrated as a day devoted to rest, religious services and humanitarian work.

"It is easy to show, on ample and unassailable authority, that physically man needs the rest.

"It is easy to demonstrate that morally man needs his attention devoted at least so often to his religion and the needs of his brother men.

"Just now, however, we will pass all that and consider how our country's future demands our faithful stewardship of the hours of the Day that is called The Lord's.

"The faithful observance of that day is one of the chief characteristics of our civilization. It is one of the distinctive things that makes our civilization the conceded superior of every civilization of the past. It is one of the mightiest of the forces that has placed Anglo-Saxon civilization upon a height never before attained.

"This civilization is single in offering to the masses full liberty, equality of opportunity, and a taste for the finer things of life.

[1] "Sunday, The World's Rest Day," p. 39.

"I need not say that the standard of liberty unfurled in Philadelphia in '76 was not the first to gladden human hearts. History tells us that many a people has risen in might, thrown off an oppressive yoke, declared and sought to perpetuate their independence. The Romans in ancient times overthrew their Kings, established a republic and declared the rights of the people which might not be denied them, but in less than a century the declaration in the Twelve Tables were about all that survived of their coveted liberties. They did not pay the price of eternal vigilance, and so lost the prize.

"Magna Charta was wrung from an unwilling monarch. Through it pledges were made that many trespasses upon the natural rights of individuals should cease and many remedies were provided. The pledge which seems to us to present the most shocking picture of the time is the fortieth: 'To none will we sell, to none deny or delay, right or justice.' Thank God, that, natural fault-finders as we are, none can truthfully say that right or justice is sold in this country.

"The charter is claimed, and probably rightly, by careful students of history, to be the corner stone of English liberty. Yet four and three-quarters centuries were to pass before the Bill of Rights should be enacted—a period which witnessed a constant struggle by the people to secure a greater, and still greater measure of protection and freedom.

"And the American Colonies were able to obtain their birthright of liberty only by manful and entire

rejection of the parental control of the English Government.

"Therefore, when the Colonial statesmen prepared a governmental framework in state or nation they strove not merely to make a substantial and eternal record of rights, but above all things to incorporate the great principles of liberty and the framework of government in a supreme law promulgated by the people themselves and capable of change only by the people—beyond the reach of either the executive, legislative, or the judicial departments of government or all of them acting together to amend.

"Thus was created a government under the complete control of the sober, second thought of the people, and in full confidence that the people would themselves assure the every-day enjoyment of liberties and rights conceded them long and universally, but accorded them in the past so uncertainly and grudgingly.

"Their purpose was magnificently fulfilled. The governmental structures wrought by them have been the envy and admiration and have inspired the emulation and hope of the civilized world and the barbarian hordes.

"The complete liberty and equal opportunity secured by their efforts to insure to posterity not alone a perfect recital of man's liberties but also and primarily a realization of the dream of the centuries; a great community where all men might be born, might mature and might live and work perfectly free

and equal—their achievement, has made this land the Promised Land for all the enslaved and oppressed.

"The demonstration made in this new land that a people may govern without hereditary monarch or landed aristocracy, and that under their rule individual liberty is secure, has inspired efforts—some of them successful in every quarter of the globe, to wrench power from ancient and hitherto secure dynasties, and place it in the hands of the people.

"All the world should know by now that liberty is every man's birthright only where the people are supreme, under Heaven, and where the people create a government by a charter whose every provision is sacred from profaning hands of any servant of the people and from any hasty conclusion, even, of the supreme people.

"And we who love the land, and love the people, who enjoy its unexampled freedom, and love the sacred document that protects that freedom, we know that to insure its complete protection from the many assaults which from time to time threaten its very life, we must have back of our constitutions and the governments they control a people not supreme alone, but intelligent, instructed, conscientious, and sober-minded.

"And it is to secure intelligent, instructed, conscientious, and sober-minded control of our constitutional government that our people need the pause in the week's occupation and the quiet, peaceful, and sacred hours that we call Sunday.

"Rest, quiet, a little prayer, a bit of sermon, a deal

of heartfelt worship, a hearty tightening of family ties, some contemplation on man's duty to God and his neighbor and the citizen's duty to his state, a deed or two of kindness—make a perfect Sunday.

"Who can doubt that one such day in seven makes a man a better citizen, a more intelligent, instructed, conscientious and sober-minded member of the supreme governing body.

"Who can doubt that without some such pause in the daily routine—some such separation from self and work—we shall develop into a people that cannot appreciate or deserve the liberties so hardly won, until they are lost to us. That is the historical and logical result when a nation holds its freedom loosely and indifferently, being mentally absorbed in meaner and more material matters.

"Our greatest advantage over many of our sister nations lies in the fact that the people rule our land, and that the people are themselves ruled by a high morality instructed and guided by individual conscience.

"To maintain our place in the sun we must forever live up to our standards of morality. We can accomplish this only through the complete and regular digestion and assimilation of those standards, weekly, upon the day set apart from our daily work, personal projects, and selfish thoughts, and devoted to restful, religious contemplation and worship, and to soul-nourishing attention to the projects and interests, thoughts and words, troubles and joys of others.

"We do not need for this more drastic Sunday laws. We are now be-lawed to a ridiculous degree.

"We do need an awakening of the public conscience and an enlightening of the public opinion to the end that the distracting work and dizzy frivolities and self-interest that interfere with a decent and wholesome keeping of Sunday shall be 'scrapped' and replaced by more restful and old-fashioned practices.

"Without the weekly separation that a well-spent Sunday provides from self-consideration and the continuous attention to and service of selfish interests (which, of course, includes family and social matters), any man or woman will sink in a sea of selfishness all love of Deity, all love of humanity, all love of his country—the three great forces for good in the world, to which love of home, love of family, and other splendid traits of character are subsidiary or incidental."

A weekly rest-day, and pre-eminently the weekly rest-day that offers the opportunities of re-creation for the mind and soul as well as for the body has proven its work manifestly in the United States and in the other Christian nations where it has been observed, so manifestly indeed that according to the most rigid scientific tests it has been proven as indispensable to the highest political well-being of man.

*Chapter VII*

# The Influence of the Sabbath on the Religious Welfare of Man

RELIGION has been defined as "a recognition of a Superior or super-human power to whom allegiance and service are regarded as justly due."[1] Religion is generally conceded to be an intuition native to the mind of every normal human being.

In a broad, general sense religion is any system of faith in and worship of a Divine being or beings, as—the Christian religion, the religion of the Jews, the Hindoos, or Mohammedans.

In a more restricted sense religion is the life of the spiritual nature as distinct from the intellectual and social powers.

The Sabbath is a weekly day of rest and worship set apart as a necessary provision for sustaining the religious life of mankind.

Religion is so much a part of a man's life and the Sabbath so much a part of man's religion that he cannot get on in his religious life without the weekly day of rest and worship. Faith must have its

[1] Century Dictionary.

nourishment or perish. The Master, in the words, "The Sabbath was made for man" points to the original design of the institution as a beneficent provision for man's welfare. Man's rest, joy and general well-being constituted a primary consideration and the Sabbath was designed and ordained to those ends. The Sabbath then is a means, not an end. The Sabbath was made for man, not man for the Sabbath.

Henry James remarks, that "Religious feeling is an absolute addition to the subject's range of life. It gives him a new sphere of power. When the outward battle is lost and the outer world disowns him, it redeems and vivifies an interior world which otherwise would be an empty waste." He further says that "It makes a tremendous difference whether you accept it with resignation or with happiness—whether it is a yoke or a privilege."[1]

"A new science has been springing up," said H. W. Dresser in his opening chapter. "The farther science advances into the inner world the easier it will be to avoid imprisoning subjectiveness.

"The essential," he says, "is to approach the study in the right temper. In a sense the inner life is a gift which all men share. Its universal characteristics each may verify. What makes it real is the fact that each of us just now possesses it.

"It is modern science, with its empirical methods and its minute experimental research, which points the way in this more practical direction (pushing

1 "Varieties of Religious Experiences," p. 31.

through to the heart of reality in the inner world.) Scientific methods have already been applied to the psychological study of religion with good results. New interest in religion as a living experience is the outcome. It remains to carry the investigation a stage farther, that it may cover the entire field of inner life. The farther the scientific investigation is carried, the more must the individual co-operate."[1]

Every man, he says, must be able to grapple more successfully with the issues of actual experience—but he needs time for meditation, silence, spiritual fasting, self-introspection. For this, Sunday is a necessity. In a nervous, hurrying age too much cannot be said about the resources of the meditative life.

The Sabbath bestows its benefits not only upon each individual, with direct and equal favor, but it diffuses its comforts and blessings to communities, nations and races as impartially as the sun and the rain, and the atmosphere, and is likewise essential to the welfare of all.

It is for man in every sphere of life, in all his relations and employments, including a spiritual use and a spiritual obligation. We can all see that the physical law runs up into the spiritual, that the physical rest is directly in the interest of the spiritual life.

It is a loving provision designed to relax the strain of the working week, to give men time for physical recuperation and leisure, if they will use it for communion with God, for sweet domestic inter-

1 "The Psychology of Religion," p. 5.

changes and for thoughts of higher things than handicraft and trade.

If religion is necessary to the comfort and well-being of man, it must have some time for its consideration and practice.

Family religion is right and good. But we believe that there would be no such thing without a Sabbath. This is the only day on which many have it in their power to engage in family worship and to interest the children in the precepts and duties of religion. There are classes of workmen who leave home for their duties before the children are awake in the morning and return after the children are put to bed at night. Thus they can never see them awake. They have therefore no opportunity to instruct their families or engage with them in religious exercises.

Dr. Alexander Lyon, Rabbi of the 8th Ave. Temple, Brooklyn, discussing the value of the Sabbath for religious purposes, says:

"Personally I esteem Sunday, our national day of rest, so highly for its religious and moral opportunity that I wish, as I have said frequently and shall continue to do, that every Jewish community in America would set aside part of the day in addition to the regular Saturday Sabbath observance for distinctively religious interest and exercise. I hold that every Jewish congregation in America, I care not what phase of Judaism it represents, should have some form of religious worship on Sunday morning, not only for the better promotion of religious culture

that is so needful in American Jewry, but also thus to multiply the agencies of uplift in American life which at the present time furnish, as I think it always will, the best home that we Jews have ever had."[1]

An important service of the Sabbath is to provide an opportunity for the cultivation and development of man's religious nature and also of his other higher interests. Its periodicity gives that opportunity for co-operation and concentration which are essential to all intellectual and social progress and enjoyment. A primary object of Sabbath observance is the dissemination of religious truth. This is the most important service which the weekly gatherings of the people in any community or neighborhood can render.

Incidentally, also, the religious services of the Sabbath provide us with the best of all social opportunities. No irregular gatherings can satisfactorily supply the social service rendered by the religious exercises of the Sabbath day. And it is manifestly true that when infidelity would escape the restraints of Christianity it resorts to many schemes to subject the Sabbath to the continental standard.

The more we study the institutions of the Sabbath, and the more we see the need of its help in the development of our religious nature and of the all-around satisfaction it gives to our social instincts, and to the protection which it gives to the poor from the rapacity of the worldly-minded rich, and to all from the frivolity of reckless pleasure seekers, the more we

[1] *Bulletin* of the N. Y. S. C., Vol. IX:3, p. 9.

must admire that Mosaic law which purified the institution and forced it upon the world with its powerful religious sanctions. If, in this, as we believe, it was only re-enacting a law of nature, it but emphasizes its paramount authority.

In these religious gatherings music, liturgy, ceremony and oratory unite in varying degrees, to unfold and emphasize the revelation which has been sent down from above. Without the opportunity afforded by the generally observed seventh day of rest from labor there can be no adequate enforcement of the truths which feed the religious nature of man.

Gilfillan observes that "The necessity of a weekly rest day to the prosperity and even preservation of religion in the world has been proclaimed by the almost universal voice of mankind. Jews and Christians have ever devoted a seventh day to holy uses. Mohammedanism has always appropriated Friday to public devotion and instruction. Paganism, holding sacred in many instances the same proportion of time, has in no instance dropped all periodical festivals, till its people have well-nigh lost the conception of an object of worship. That so many, in regions and periods widely remote from each other, have observed a Sabbath, or some analogous arrangement, is a strong testimony to its religious necessity."[1]

Periodical days of rest from ordinary labor have been recognized from earliest times by all races of mankind. As summarized by Prof. Toy of Harvard

[1] The Sabbath by Gilfillan, p. 200.

"it was unlawful, in the Hawaiian Islands on certain days, to light fires or to bathe. And at certain times the King withdrew into privacy, giving up his ordinary pursuits. In Borneo work was forbidden on certain days in connection with the harvest."[1]

"Many natural reasons," says Dr. G. Frederick Wright, "confirm the belief that, like the nightly period of rest, the weekly day of rest was made for man, and that he disregards it at his peril."[2]

The calendars based upon the changes of the moon were employed in ancient Egypt, Babylon, on the west coast of Africa, in Hawaii and in New Zealand. The calendar of the Jews seems clearly to have a connection with that of Babylon. This appears in the parallel accounts of the deluge which are given in the Bible and on the Babylonian tablets.

The discoveries of the last half century concerning the laws of the ancient Assyrians, and before that, the Acadians which we learn from the clay tablets of that far off time—preserved for millenniums and now brought to light, give us abundant evidence that those very ancient people had a law setting apart a day of rest—one day in seven calling it "Sabbattu."

Prohibition of servile work, whether of man or beast, is necessary not only for the physical and mental welfare as has been proven (chapters 1, 2, and 3) but for the preservation of the health of man's religious nature.

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[1] Journal Bib. Lit. Vol XVIII, pp. 190-194.
[2] Sunday, The World's Rest Day, p. 163.

As the observance of the Sabbath had died out among the nations or had degenerated into a mere feast day or holiday as seen among the Egyptians, their religions lost their vitality, and the law was re-enacted under the Mosaic dispensation and placed in the very heart of the moral code to distinguish them among the nations of the earth, giving permanence and power to their religion, and to establish upon that moral basis a nation needed in the world as the keeper and defender of the oracles of God and to lead the nations of the earth to a higher plane of law, of morals and of religion.

It was placed as a golden link between the law of our duty to God and the law of our duty to our fellow man—binding both together until we shall attain to that promised and predicted Sabbath which remaineth to the people of God.

From the foregoing and many other considerations the scientific man is prepared easily to recognize the existence and importance of such a period of rest and change as is provided in the weekly Sabbath. Especially is this so when he finds that from the earliest times and among most widely scattered nations a weekly holiday has been observed. To such an extent has this hebdomadal division of time been recognized that we cannot well resist the conclusion that it has a basis in the order of nature—and that the Creator has so formed us that it is one of our natural necessities which we neglect at great cost.

There must be time for the improvement of character and for the rest of the body and the brain. It

appeared on the Calendars of Babylon and India. The idea came down through the Assyria-Babylonia and reappeared among the classical writers. Both Homer and Hesiod held the Sabbath day sacred for the quest of the knowledge of truth. What others groped after in vain the Jews received in their sacred oracles.

Such an institution as the Sabbath is needful to arrest the current of the outward life and to turn thoughts to the unseen and the eternal.

It is needful to afford time for the instruction of the people and for the public and special worship of God.

*The Weekly Day of Rest is of Universal Necessity.*

It has been abundantly proved by Chapters 1, 2, and 3 that the day of weekly rest is inherent in human nature and must therefore be as permanent and abiding as human nature. It is undoubtedly true that such ordinances of the Old Testament as were addressed to the Jews as Jews were founded on their peculiar circumstances and relations, fulfilled their purpose and passed away when the Mosaic Economy was abolished. But those commandments which were founded upon the immutable nature of God or upon the permanent relations of man are of permanent obligation.

Dr. Wm. Pierson Merrill, in discussing "The Right Use of the Lord's Day" remarks:—"Older than the day of worship, older than the law from Sinai, is the law of one rest-day in seven, written in

the constitution of the world, and in the constitution of the human body and soul."[1]

It is of incalculable importance that men should have time and opportunity for religious instruction and worship. It is necessary that all men and servile animals shall have time to rest and to recuperate their strength. The daily nocturnal rest is not sufficient for the purpose—as physiologists assure us, and as experience has demonstrated. Such is obviously the judgment of God.

Dr. G. F. Wright in an essay on "The Day of Rest in Nature and Human Nature" lays down the proposition—

"Accepting the seven-day period as a correct measure of one of our needs of periodic rest, we can confidently defend the following propositions:

"1—that the needed day of rest cannot be preserved without its religious sanction.

"2—that the religious faith so necessary for that peace of mind which secures the highest degree of human efficiency cannot be secured without the weekly Sabbath."[2]

"There must be a religion," observes Dr. John W. Buckham. "Men cannot get on without it. And religion must have its worship, its temples, its sacred day—grounded in the noblest instinct of our human nature."[3]

"The Sabbath is absolutely essential for the culti-

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1 "The Right Use of the Lord's Day," p. 14.
2 Sunday, The World's Rest Day, p. 165.
3 Sunday, The World's Rest Day, p. 121.

vation and development not only of man's religious nature, but as well of all his other higher interests. Its periodicity," says Dr. Wright, "gives that opportunity for cooperation and concentration which is essential to all intellectual and social progress and enjoyment."[1]

But the great service which the day of Sabbath rest renders man is in the realm of his spiritual nature. Man cannot live by bread alone. His physical nature develops best when his whole nature has its wants supplied. The peace of mind which accompanies true religion is a real physical asset. That faith in God which enables one, when he has done his best, to lie down in quietness and to "rest in the Lord and wait patiently for Him" not only affords blessedness of the highest order, but adds to his efficiency in every emergency that may arise.

It is as old as the human race and is based upon the necessities of human nature, therefore it comprehends all races and ages of mankind. As a periodical pause of labor it is conducive to the interest of morality. Its regular rest recruits the physical powers and prevents the strong temptations to stimulants. John Foster says that "the Sabbath is a remarkable appointment for raising the general tenor of moral existence. It also secures the opportunity for the cultivation of domestic intercourse—that powerful incentive to virtue. But more than that, the Sabbath is preeminently a day for instruction and worship—indispensable conditions of religious life."[2]

[1] Sunday, The World's Rest Day, p. 166.
[2] Evils of Popular Ignorance, pp. 47, 48.

"There is no hope of destroying the Christian religion," said Voltaire, "so long as the Christian Sabbath is acknowledged and kept by man as a sacred day."[1]

Dr. Charles Hodge says:—"It appears, therefore, from the nature of this Commandment, as moral and not ceremonial, that it is original and of universal obligation. No man assumes that the Commands—'Thou shalt not kill' and 'Thou shalt not steal' were first announced to Moses and ceased to be obligatory when the Old Mosaic Economy passed away."[1]

A moral law is one which binds from its own nature. It expresses an obligation arising either out of our relations to God or out of our permanent relations to our fellow men. It binds whether formally enacted or not. It is normal that there should be a day of rest and cessation from worldly avocations. It is of moral obligation that God and His great works should be statedly remembered. It is a moral duty that people should assemble for religious instruction and for united worship of God. All this was obligatory before the time of Moses and would have been binding had Moses never existed.

All the fourth commandment did was to put this natural and universal obligation into a definite legal form. Its form and value were beautifully and forcibly expressed by Abraham Lincoln when in responding to an address by the representatives of the New York Sabbath Committee November 13, 1862,

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1 "The Sabbath for Man," by W. F. Crafts, p. 251.
2 Theology, Vol. III, p. 323.

among other things he said:—*"As we keep or break the Sabbath day we nobly save or meanly lose the last best hope by which man rises."*

# INDEX

## A.


Page

Accidents ..... 77, 79
Activity of brain ..... 51
America land of high wages and efficiency ..... 75
Aristotle on the state ..... 89
Assyrians and Acadians observe Sabbaths ..... 106
Auburn Penitentiary ..... 61
Avarice enemy of Sunday laws ..... 86


## B.


Basis in the order of nature ..... 107
Bearing of sustained effort on the mind and body ..... 15
Bianconi, Chas. ..... 78
Biological machine ..... 9
Blackstone ..... 61, 92
Body a chemical engine ..... 18
Body instrument of the mind ..... 18
Book, Wm. F. ..... 15
Brain does not rest when body sleeps ..... 52
Break in intellectual routine ..... 43
British House of Commons Committee ..... 26
British Scientists statements ..... 45
Brown, Wm. Adams ..... 53
Buckham, John W., there must be a religion and a sacred day ..... 109
Bulwark of rulers, of rich and poor ..... 92
Burke, John J., work and rest ..... 80, 81
Butler, Wm. Allen ..... 90


## C.


Calendars based on moon days ..... 106
California research fund ..... 82
Capital of living material ..... 17
Carrel, mind measures worlds, not itself ..... 41
Cast iron guns ..... 84
Causes of insanity ..... 45
Causes of mental unrest ..... 38
Cell and its properties ..... 16

Page

Cerebral physiology in embryonic stage ..... 41
Change in metals is chemical ..... 83
Chart of Haegler ..... 36
Chemical basis for fatigue ..... 23
Children's Courts in 21 states ..... 68
Children's Courts not to punish but to save ..... 68
Church attendance no hardship on children ..... 58
Circulation, balance ..... 27
Clergymen, doctors warned ..... 29
Columbus penitentiary ..... 67
Comprehends all ages and races ..... 111
Conflict between week of 5 working days and one of 7... 71
Continental Sabbath to escape Christianity ..... 104
Continuous labor ..... 74
Corruption of morals follows profanation of Sabbath .... 61
Court of Special Sessions ..... 67
Crain, Thos. C. T. ..... 66
Criminals, neglect in childhood ..... 62
Crystalization theory discarded ..... 85
Cumulative fatigue ..... 44

D.

Daily noctural rest insufficient ..... 109
Daily surplus of energy ..... 16
Danse, L. A. agrees as to fatigue in metals ..... 85
Dead brain an open book ..... 41
Deluge in Bible and Babylonian tablets ..... 106
De Tocqueville ..... 60
Diseased lungs ..... 29
Disease thrives when vitality is lowered ..... 32
Distinctive property of cell ..... 16
Divorce and the Sabbath ..... 63
Dresser, H. W. Psychology of Religion ..... 102
Durant, Will. History of Philosophy ..... 88

E.

Economic law governs wages ..... 76
Economic loss from mental troubles ..... 39
Edgerton, John E. favors 6 day working week ..... 70
Effect of day of rest upon the family ..... 53
Effect of worry ..... 49
Egypt, Babylon, Africa, New Zealand, Hawaii ..... 106
Egleston, Thos. Fatigue of metals ..... 82
Elasticity of muscles ..... 30
Emerson, Ralph W. ..... 59

Page

Employers oppose Sunday labor on three grounds ..... 72
Enemy of energy ..... 15
Energy bank account ..... 16
Exertion forced, injurious ..... 20
Experiments of Pettenkofer and Voit ..... 34

F.

Family basis of state and nation ..... 87
Family religion impossible without Sabbath ..... 103
Family the sanctuary of infancy ..... 53
Farre, Dr. Jno. R. Testimony of ..... 26
Fatigue a chemical process ..... 18
Fatigue and efficiency ..... 15
Fatigue failure of airplane parts ..... 82
Fatigue and refreshment of metals ..... 84
Fatigue nature's warning ..... 20
Fisher, Irving, testimony of ..... 80
Five-day program of labor ..... 70
Floody, John. State has right to legislate ..... 89
Flourens. 100 years ought to be life-span ..... 26
Food and rest ..... 31
Foot pounds of energy ..... 15
Ford, Henry ..... 70
Foster, John. Sabbath raises tenor of morals ..... 110
Foster, Sir Michael ..... 17
France and Britain compared ..... 93
French life and thought ..... 60
Frequent vacations ..... 47

G.

Gary, Elbert. 5 day week impractical ..... 70
Germany ..... 79
Gies, Wm. J. ..... 19, 23, 47, 48, 49
Gilfillan, James ..... 53, 59, 93, 105
Golden link between law of duty to God and to man ..... 107
Goldmark, Miss Josephine ..... 16, 20, 22, 31, 79
Gompers, Samuel ..... 57
Green, Wm., President Federation of Labor ..... 75

H.

Haegler, Dr. A. ..... 33, 36, 40
Hale, Sir Matthew ..... 61
Harmony of action of organs ..... 30
Harrison, John P. ..... 48

Page

Harvey, F. J. ..... 54, 56, 59, 69
Highest efficiency secured by Sabbath ..... 109
High wages, law of ..... 75
Hodge, Chas. Law moral and not ceremonial ..... 110
Homer and Hesiod for quest of truth ..... 108
How rest repairs fatigue ..... 23
Hoyt, Justice F. C. ..... 68
Human desire to know ..... 53
Hygienic value of day of rest ..... 32
Hygiene, teaching of ..... 29

I.

Impairment of bodily tissues ..... 35
Improvement of character, rest of body and brain ..... 108
Incessant work and play kills ..... 90
Increase of mental disease ..... 38
Industrial fatigue ..... 71
Influence of Sunday School ..... 66
Inherent in human nature ..... 108
Intelligence standard fixes wages ..... 76
Investigation by British House of Commons ..... 26
Iron and steel rail break in service ..... 83

J.

Jachin and Boaz ..... 54
James, Henry. Religion and range of life ..... 101
Jews—went to pieces when Sabbath forgotten ..... 93
Juvenile delinquency ..... 65

K.

King George appoints committee ..... 71
Knowles, Mrs. J. N. ..... 54

L.

Labor legislation ..... 75
Lack of rest ..... 40
Law of fatigue and refreshment of metals ..... 84
Lee, Frederick S. ..... 80
Life a change of structure ..... 16
Life of the tissue ..... 16
Lincoln ..... 111
Little food for nerves, much for muscles ..... 50
Lyon, Alexander. Needful for religion and morals ..... 103
Lyon, Samuel ..... 30, 31, 46

M.

Page
Machinery needs rest ..... 77
Magistrates in New York City ..... 66
Man cannot live by bread alone ..... 110
Man disregards Sabbath at own peril ..... 106
Martin, E. G. ..... 15, 17, 18, 24, 42, 44
Mental diseases increase ..... 38
Merrill, Wm. P. Law of Sabbath Constitution ..... 108
Metabolic balance ..... 31
Metals and periodic rest ..... 82
Miller, James ..... 21
Millevoye, Henry ..... 61
Mind knows nothing about itself ..... 41
Miners lose by sickness ..... 77
Modern civilization wearing nerves down ..... 45
Modern inventions increase production but do not diminish fatigue ..... 80
Monotony of work kills ..... 50, 73
Moral law binds from its own nature ..... 111
Morals in France ..... 60
Moral influences must be safeguarded ..... 90
More flour produced in 6 days than in 7 ..... 78
More salt produced in 6 days than in 7 ..... 79
Mosso, A. ..... 20, 49
Moundsville, Va. ..... 67
Muscular exertion ..... 17
Muscles, voluntary and involuntary ..... 21
Mussey ..... 26

N.

Nation formed from families ..... 54
National Committee for Mental Hygiene ..... 39
Natural reasons for weekly rest day ..... 106
Necessity for periods of rest ..... 20, 24
Neglect of rest and insanity ..... 45
Neglect of Sabbath destroys family relationships ..... 59
Nervous fatigue differs from physical ..... 50
Nervous fatigue develops slowly ..... 50
Nervous, hurrying age needs to halt ..... 102
Nervous prostration ..... 27, 45
New Haven Medical Association ..... 29
New Jersey ..... 63
Newman, Sir George, Chairman ..... 71
Niemeyer, Paul ..... 30, 31
No family religion without Sabbath ..... 103
Normal recuperative process ..... 22

O.

Page

Older than Moses ..... 109
One day's rest in seven natural law ..... 33
One in ten in New York have mental diseases ..... 39
Operation of tissues hampered ..... 19
Original and universal ..... 111
Overflowing vitality opposes disease ..... 32
Overwork is abnormal ..... 81
Oxygen in day, carbonic acid at night ..... 34

P.

Parker, Judge Alton B. Sabbath and Political well-being 94-99
Peace of mind a physical asset ..... 109
Periodical days from earliest times ..... 105
Periodicity necessary for social progress ..... 110
Periodic rest day protection to society ..... 90
Pettenkofer and Voit on work and rest ..... 34
Physical nature developes best ..... 110
Physicians both side of the Atlantic ..... 29
Physiology of the human body ..... 16
Portsmouth, Ohio, Crittenden Home ..... 67
Post office clerk's testimony ..... 49
Preservation of restorative power ..... 27
Prevention better than cure ..... 46, 68
Preventive medicine and microscopic life ..... 31
Product of 6 days' work equals 7 ..... 78
Progressive fatigue ..... 42
Prohibition of servile work best for man and beast ..... 106

R.

Rabaud's testimony ..... 46
Record of hours of accidents ..... 79
Refreshment of fatigue in metals ..... 82
Relaxation increases efficiency ..... 20
Religious faith cannot be secured without Sabbath..... 109
Religion defined ..... 100
Religious life of man's spiritual nature ..... 100
Resistance to disease ..... 31
Rest day important to the state ..... 91, 92
Rest indispensable nourishment ..... 35
Rest indispensable to industry ..... 85
Rest, nightly, insufficient ..... 20, 33
Rest, occasional is helpful ..... 20
Rest overcomes fatigue ..... 20

S.

Page

Sabbath a civil institution ..... 88, 91
Sabbath bestows benefits on nations ..... 102
Sabbath born in Paradise ..... 69
Sabbath defined, for sustaining religious life ..... 100
Sabbath for man's general well-being ..... 101
Sabbath law did not die with Jewish nation ..... 108
Sabbath loving provision to relax toil ..... 102
Sabbath necessary for family ..... 103
Sabbath opportunity to enforce religious truth ..... 104
Sabbath secures domestic intercourse ..... 110
Sabbath universal ..... 108
Seven days labor ..... 71
Seventh year rest ..... 47
Shriveling of brain ..... 41
Six day week has served America well ..... 71
Six days' work and seven compared ..... 77
Spain compared with Holland ..... 93
Spain ..... 59
Standard of moral attainments fixes wages ..... 76
State must look to its future ..... 92
State must safeguard morals ..... 90
Stewart, James Perves ..... 45
Stimulus loses effect ..... 49
Strong, Justice Wm. ..... 61
Sunday, a yoke or privilege ..... 101
Sunday, day for friendships ..... 57
Sunday labor a problem ..... 72
Sunday labor a serious evil ..... 74
Sunday laws, civic regulations ..... 90
Sunday irons out wrinkles ..... 58
Sunday necessary for meditation ..... 57, 102
Sunday, point of divergence ..... 56
Sunday work, a reduction of wages ..... 75
Sunday work confined to emergencies ..... 73
Sustaind effort of mind and body ..... 15

T.

Testimony of Scotia, a miner ..... 76
Thorndike, Edw. L. ..... 40
Tired persons are poisoned persons ..... 22
The sabbatical appointment ..... 28
The scientific spirit ..... 55
Tissue, living and dead ..... 16
Toy, Prof., says—unlawful in Hawaii to light fires or bathe 105

U.

Page

Undermining the Sabbath, sacreligious ..... 57
Universal voice of mankind ..... 105
Uses and abuses of the Sabbath ..... 27

V.

Vacations to brain workers ..... 48
Voit ..... 34
Voltaire ..... 110

W.

Warning against seven days work ..... 29
Waste products ..... 17
Week of five work days ..... 70
Weekly gathering of people ..... 104
Weekly rest-day or nervous breakdown ..... 52
Whether a yoke or a privilege ..... 101
Work Sunday a pauper Sunday ..... 75
Workers in munition works ..... 71
Would have been binding if Moses never existed ..... 111
Wright, G. Frederick ..... 106, 109

Y.

Youth not altogether blameworthy ..... 65

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